

AUDIO MEDIA

THE WORLD'S LEADING PROFESSIONAL AUDIO TECHNOLOGY MAGAZINE

Workstation Wonders

New Tools Tested: Cubase 5, Pro Tools 8, Liquid Mix HD, & RME HDSPe

Studio Monitors & Live Consoles

Product Samplers

BLACKBOX RECORDER

JoeCo

Special Promotion



The Awards Issue!

Final Cut: Slumdog Millionaire & The Dark Knight!

Grammy Awards Broadcast

Audio Awards Roundup

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SONIC



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'The sE4400a is a beautiful microphone. I've tried it on nearly everything I can with stunning results. It will be a classic and will be used by me for a long time to come.'

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I have used the sE4400a on acoustic guitar, electric guitar, bass, percussion. It is a true all-rounder. I can see the sE4400a becoming a requirement for all good mic cupboards.'

TONY PLATT

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AC/DC, The Stranglers,
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- 4 Polar Patterns - Cardioid, Figure 8, Hypercardioid, Omni
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SONIC



Sound Engineering
www.seelectronics.com

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The next step in the evolutionary chain is here, and RUSS LONG is one of the awe-inspired many of Digi's latest and greatest Pro Tools.

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From the great to the small, the large to the little; *Audio Media* offers a selection of monitors for all-sized spaces, budgets, and projects.

AMSR PRODUCT SAMPLER: LIVE CONSOLES 66

It's been hard to keep track of all the new and improved live consoles this year – so *Audio Media* has done the hard work for you, and brought together a selection of the most noteworthy.

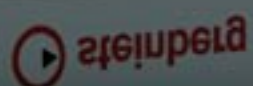


CUBASE 5



CUBASE 5

Advanced Music Production System



Advanced Music Production System

Experience.
Innovation.
Cubase 5.

See your dealer now or go to www.steinberg.net

NEW PRODUCT



Benchmark MPA1 Mic Preamplifier

Newly released is the MPA1 2-channel microphone preamplifier from Benchmark, suitable for stereo pairs, ribbon mics, "and any other applications where purity is the goal." The input is designed with high-voltage headroom (+29 dBu) and single-stage gain control, low-frequency performance is maintained by dual-capacitor AC-coupling design, while gain is controlled via a 38-position, switched resistor ladder with automatic gain-range switching featuring LED range-indicators.

www.benchmarkmedia.com



NEW PRODUCT

Shure Plans Product Launch at Prolight + Sound

Shure has several new products set to be showcased at Frankfurt this year. The first are two professional standard USB, side-address condenser microphones (PG27USB and PG42USB) that enable recording wherever a laptop or computer is available. Along similar lines is the X2U adaptor, which facilitates USB connection for XLR microphones. Also due for release and adding to the SM range are the SM27 and SM137 models.

www.shure.com

Award Winners Music Producers Guild Awards

This February heralded the start of a new awards ceremony dedicated to celebrating the skill and talents of music recording professionals, The Music Producers Guild Awards. The event took place at the Café de Paris, London, and was hosted by BBC 6 Music's Nemone Metaxas. Over 300 people attended to see the cream of recording professionals receive the recognition they deserve. Picking up the award for Producer of the Year, which also earned its winner a Brit Award for Best Producer, was Bernard Butler for his work on Duffy's debut album *Rockferry*. Brian Eno picked up The Joe Meek Award for Innovation in Production, while the rest of the awards went as follows: Recording Engineer of The Year – James Towler, Best Mix Engineer – Cenzo Townshend, Best Mastering Engineer – Ray Staff, Best International Producer of the Year – Danger Mouse (AKA Brian Burton), Best Live Album of The Year (08) – Girls Aloud – *Tangled Up*, UK Album of The Year (08) – Elbow – *Seldom Seen Kid*, UK Single of The Year (08) – Elbow – *One Day Like This*, Best Re-mixer – Calvin Harris, Best Newcomer – Paul Epworth, Best Studio – British Grove Studios, Unsung Hero – Andy McBride, Music Producers Guild Special Recognition Award – Chris Blair.

www.mpg.org.uk



New Product Zoom H4n

The H4n is an evolution of the H-series of handy recorders from Zoom with an improved user interface, integral X/Y stereo condenser microphones, a digitally controlled mic pre-amp, and the option to use both internal and external microphones simultaneously for 4-channel recording. The stereo mics allow variable recording patterns at either 90 or 120 degrees, recording high-resolution audio at 24-bit/96kHz on SD/SDHC media, allowing up to 32GB of storage space. The Zoom H4n incorporates several features from the H2 such as Broadcast Wave Format (BWF), compatible time stamp, track marker functions, and auto-record and pre-record.

For the recording musician, the device utilises Hi-Z inputs for recording guitar and bass, variable speed playback capability for 'phrase training', onboard studio effects, and over fifty different guitar and bass amp modelling settings. A 'stamina mode' enables up to ten hours of continuous operation on a single set of AA batteries.

Zoom UK

+44 (0) 1462 791100

www.zoom.co.jp



NEW PRODUCT

V-Plugs Emphasizer



V-plugs has released Emphasizer, a VST plug-in that claims to be "the cheeky young brother of the equaliser". Emphasizer employs V-Plus' Selective Dynamic Manipulation technology to emphasise specific spectral elements.

www.v-plugs.com

NEW INSTALLATION

Charleston Replaces Digital Console



Charleston Sound has installed a 32-channel API 1608 fully-discrete analogue tracking and recording console, replacing a digital console that the studio felt never quite delivered the sound it wanted.

www.apiaudio.com

NEW PRODUCT

Native Instruments Maschine

Native Instruments' Maschine, a groove production studio enabling tactile beat creation and arrangement, is now available in stores. The system combines an advanced software sequencer and sampler with a functional performance controller.

www.native-instruments.com



NEW PRODUCT

Milab BDM-01

Milab has released a new dedicated bass drum condenser microphone in the BDM-01. It features a hand-made cardioid condenser capsule and boasts no audible distortion up to 155dB.

www.milabmic.com



NEW PRODUCT



Musicrow Vintage Strings MkIII

Musicrow has announced the release of Vintage Strings MkIII, a virtual string machine that replicates the sound of analogue string ensemble keyboards from the 70s.

www.mcrow.net

NEW PRODUCT

Elysia Museq



Elysia has released the Museq – the musical equaliser – an analogue EQ with two channels offering three parametric bands, with a switchable EQ and circuitry based on discreet analogue technology.

www.elysia.com

NEW PRODUCT

KRK Systems R6



KRK Systems has released a new passive studio monitor in the R6 that incorporates design cues from KRK's Rokkit line, including 'radically radiused' edges along the front of the cabinet.

www.krksys.com

WORKSHOP

Neumann at Prolight + Sound



Neumann will be presenting a total of forty seminars on microphone use at Prolight + Sound this year, with topics including studio and stage use, choir amplification, and measures for improving room acoustics.

www.neumann.com

New Studio

Sweatshop Opens in Katonah, New York

A brand new recording studio has opened its doors in Katonah, New York. Designed by Walters-Storyk Design Group and owned by Shaul Dover, the 1060ft² site comprises a 400ft² two-storey high live room with two 50ft² Iso booths, plus a 450ft² control room designed to accommodate long session work. The search for the right designer led Shaul to WSDG, whom John Storyk had impressed with his work at the Jazz At Lincoln Centre Complex. This had particular importance as the studio is keen to focus on a jazz-oriented client base. Shaul Dover said, "The key for me was to create an environment where artists could focus on their creativity. The vibe is as important as our collection of analogue and digital gear."

The studio is out-fitted with Dynaudio BM15A 5.1 surround 5.1 speakers with BM12S Sub, Dangerous Monitor Control with ST and SR Expenders, a Studer A800 (2-inch 24-track) tape machine, controlled and synchronised with Euphonix 5MC Nuendo, Pro Tools HD 7.3 and LE 7.3, Logic Pro 8, and a Lynx Aurora console. John Storyk said of the studio design, "This is a full room-within-room design with concrete slabs, IAC doors, and lots of glass. We took great care in tuning the rooms to ensure the accuracy of the reverb and frequency response."

Sweatshop Studios

+1 914 600 2034

www.sweatshopstudios.com

Walters-Storyk Design Group

www.wsdg-ftp.com



New Product

RME HDSPe AIO

RME has announced shipping of its HDSPe AIO, a new 38-channel 192kHz multi-format PCI Express Card. The audio interface provides: 1x analogue I/O, 1x AES/EBU I/O, 1x S/PDIF I/O, x ADAT I/O, 1x MIDI I/O, and one headphone output. The I/O interface uses 192kHz AD-DA converters, with up to 116dB signal to noise ratio, while the 18 inputs and 20 outputs can be used simultaneously. Four additional high-quality analogue I/Os, an eight-channel TDIF I/O, and a Word Clock I/O can be added by optional expansion boards. The integrated and fully MIDI-controllable DSP-based TotalMix mixer routes and mixes all 18 inputs and 20 output channels to all physical outputs. Other handy features include separate SPIDF and AES/EBU I/Os for simultaneous recording of different audio signals, and a headphone output with its own DAC and playback device.

RME Audio

www.rme-audio.com



NEW PRODUCT



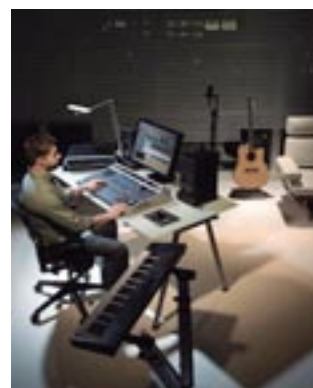
Summit Audio ECS410 'Everest' Channel Strip

Summit Audio has announced the release of the ECS410 Everest channel strip featuring discrete four section analogue channel strip with tube/solid state preamp, passive EQ, dual mode dynamics, DriveBus output, and single touch routing via TouchPatch. Summit Audio has designed the strip with a lifetime of use in mind incorporating thru-hole parts for reliability and easy repairs, plus gold plated circuit boards.

www.summitaudio.com

NEW PRODUCTS/UPDATE

Cakewalk



Cakewalk is now shipping the Sonar V-Studio 700 and a new line of four USB interfaces.

The Sonar V-Studio 700 includes Sonar 8 Producer Digital Audio Workstation, Rapture Virtual Instrument, VS-700C V-Studio Console, VS-700R V-Studio I/O, and integrated Roland Fantom VS hardware synthesiser. The new USB interfaces are all USB-bus powered for mobile recording. A new update for Sonar 8 Producer and Sonar 8 Studio is also available.

www.cakewalk.com



Creative production company Sassy Films has announced the launch of its £1.7 million digital studio, which includes a whitewall studio, eight editing suites, and a Pro Tools audio suite with voiceover booth. The aim is to create an all-in-one service for media companies and advertising agencies.

www.sassyfilms.co.uk

AKA Design Decks Out The Voice and Music Company

AKA Design has installed its fourth and final desk at the new Voice and Music facility in Soho Square. The new desk, for a Digidesign D-Command 24, is the culmination of a year's work at the facility, joining suites that include voice over and producers tables. The Voice and Music Company handles composition, sound design, and audio post-production for a variety of film and television clients including Disney, Chapman Entertainment, the BBC, Novel Entertainment, and Chorian. Director of Voice and Music, Alan Coates, heaped praise on AKA's work saying, "We chose AKA Design for all of our furniture requirements because it has a solid reputation for delivering bespoke solutions that are both ergonomic and beautiful. All of our studios now feature AKA Design desks and they look great."



+44 (0) 208 829 9100
www.akadesign.co.uk
www.thevoiceandmusiccompany.com



McDSP has announced that its new Retro Pack Bundle, Emerald Pack 4.0, Channel G Compact, and Channel G Surround are now shipping.

www.mcdsp.com



iZotope is now shipping Ozone 4, the latest update to its critically-acclaimed software mastering suite. Upgrade options are available for current customers.

www.izotope.com



Cedar has launched the new CEDAR Cambridge Series III audio restoration and speech enhancement system.

Now running on server-grade hardware under Windows Vista, the new system runs faster, and holds more data, than any previous Cambridge servers.

www.cedaraudio.com

Tango Software Expands

Smart AV has announced that its latest Tango software now controls Final Cut Pro and Pro Tools. A development team spokesman at Smart AV said, "Our focus has really been on the control of the audio side of Final Cut, i.e., Soundtrack Pro." Joe Narai of Smart AV CTO, said of the Pro Tools development, "Like all third party developers, we have had to battle the limitations of the HUI/Pro Tools interface, but in the circumstances we are very pleased with what we have achieved." Tango has the latest touch screen technology as well as the unique ARC Technology developed for the Smart Console. Tango also directly controls Pyramix, Nuendo, Logic, and Cubase.

+61 2 9648 6744

www.smartav.net



Minnetonka Audio Software is now shipping SurCode for Dolby E Encoder as either a single encoder plug-in or as a bundle with the already available SurCode for Dolby E Decoder.

www.minnetonkaaudio.com

Xynergi

media production centre

Pure Inspiration

record • edit • mix • create

www.fairlightau.com



slumdog millionaire

Pinewood Powell Theatre

The Oscar® Gold Continues.

Euphonix congratulates The Pinewood Studios Group sound mixing team of Richard Pryke and Ian Tapp, as well as Resul Pookutty and composer A.R. Rahman, for their work on *Slumdog Millionaire* — winner of Academy Awards® for “Best Achievement in Sound,” Best Original Score,” and “Best Original Song.”

Sound mixing teams working on a Euphonix System 5 mixing console have won or been nominated for an Oscar® for six out of the last eight years.



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 **Euphonix**
euphonix.com

South America Røde Ride With Expedition

A recent German documentary expedition to Tierra del Fuego and Cape Horn at the southernmost tip of South America, has used Røde's



NTG-3 shotgun microphone, Blimp windshield, WS7 deluxe windshield and boom pole. The journey was inspired by Darwin's voyage to the region. Ralf Brauner, who headed the camera crew, commented, "The NTG-3 was 100% reliable in an environment where moisture and condensation is a top issue!"

Røde Microphones
+61 2 9648 5855
www.rodemic.com

Diary of Events

March 25-27

IPTV World Forum 2009
Olympia, London

March 30 - April 2

ShoWest
Las Vegas, USA

April 1-4

Prolight + Sound/Musikmesse
Frankfurt, Germany

April 18-23

NAB Conference
Las Vegas, USA

April 22-24

Media-Tech Europe 2009
Frankfurt, Germany

April 26-28

PALME Middle East
Dubai, UAE

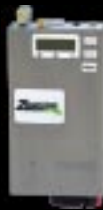
April 28-29

Plasa Focus
Leeds, UK

New Product

Zaxcom TRX992

Zaxcom has introduced an all-in-one wireless boom pole unit, the TRX992, that performs the functions of an audio transmitter, monitor return receiver, backup recorder, and phantom power supply. It has the capacity to store up to 24 hours of audio to a removable mini or micro SD card, using internal recording that backs up transmission to guard against data losses. The TRX992 can be used for critical monitoring applications, with a 2.4GHz digital monitor return receiver that relays return audio, time code reference, and RF remote control commands. Alternatively, users can elect to transmit high-resolution IFB audio instead of time code and remote control signals. The TRX992 also incorporates a VPF rechargeable battery system that holds roughly twice the energy of today's lithium packs and supports more than five hundred charges, negating the need for costly disposable batteries.



Zaxcom

+1 973 835 5000
www.zaxcom.com

New Install

China – Liaoning TV

Liaoning TV, one of the first five TV stations on mainland China, has installed a 96-channel Euphonix System 5 digital audio mixing system in its newly integrated music recording studio. Euphonix kitted out an OB van for the station with Euphonix Max Air equipment during 2008's Olympic Games, the van now being used for live-to-tape television shows. The station has seven public channels, 18 video-on-demand digital channels, 10 digital radio channels, and a satellite channel serving an audience of nearly 270 million households throughout China. Jeff Levison, Euphonix's Director of International Sales said of Liaoning TV, "When building their new state-of-the-art recording studio, they knew that the versatility and power of Euphonix 5 would guarantee them success."



Euphonix (Europe)
+44 (0) 208 589 0766
www.euphonix.com

New Product

Sonifex Rack Monitor

Sonifex has added Dolby decode functionality to its range of rack-mount monitoring units with the release of its RM-HDE1 card. Available as an upgrade to existing models in the Sonifex Reference monitor range (RM-4C8, RM-2S4, and RM-2S10), or pre-installed, the card can either decode Dolby 5.1 audio from an AES audio stream (XLR or BNC), or can de-embed and decode a Dolby encoded AES stream from an HD/SD-SDI source.



Sonifex
+44 (0) 1933 650700
www.sonifex.co.uk

RME . International Distributors

North America

USA, CANADA: Synthax Inc. , www.synthax.com

South America

CHILE: Videomedia LTDA. , www.videomedia.cl

Europe

BULGARIA: Almar Co. Ltd. , www.almar.bg

CROATIA: Neuron , www.neuron-d.com

CZECH REPUBLIC: Disk Multimedia s.r.o. , www.disk.cz

DENMARK: Soundworks , www.soundworks.dk

ESTONIA: IS Music Trading Ltd. , musicisonline.ee

FINLAND: Studiotec Oy , www.studiotec.fi

FRANCE: SCV AUDIO , www.scv.fr

GERMANY, AUSTRIA: Synthax GmbH , www.synthax.de

GREECE: Logotheris Music , www.logotherismusic.gr

HUNGARY: Midisoft Studio Kft. , www.midisoft.hu

ICELAND: Tonabudin Ltd. , www.tonabudin.is

IRELAND: Futate Sounds , www.futuresounds.ie

ITALY: MidWare Srl , www.midware.com

LITHUANIA: Midiaudio Ltd. , www.midiaudio.com

NETHERLANDS, BENELUX: AudioAG , www.synthax.nl

NORWAY: Prolyd , www.prolyd.no

POLAND: Audiostacja s.c. , www.audiostacja.pl

PORTUGAL: Audiolog, Lda , www.audiolog-lda.com

ROMANIA: A.V. Audio Sys s.r.l. , www.avaudiols.ro

RUSSIA: 4Sonic , www.4sonic.ru

SERBIA, MONTENEGRO: Artist d.o.o. , www.artistsystems.co.yu

SLOVAK REPUBLIC: Sound Service , www.soundservice.sk

SLOVENIA: MTD , www.mtd-el.si

SPAIN: Microfusa , www.microfusa.com

SWEDEN: Fitzpatrick Import Group S.A. , www.fitzpatrick.se

SWITZERLAND: Music Network GmbH , www.musicnetwork.ch

TURKEY: Bl. Muzik Co. Ltd. , www.blmuzik.com

UKRAINE: Real Music Ltd. , www.realmusic.ua

UNITED KINGDOM: Synthax Audio UK Ltd. , www.synthax.co.uk

Asia and Pacific Rim

AZERBAIJAN: Promix , www.promix.az

AUSTRALIA, NEW ZEALAND: Innovative Music Australia Pty Ltd. , www.innovativemusic.com.au

CHINA: Central Music Co. , www.centrmusic.com

HONG KONG: Central Music (HK) Ltd. , www.centrmusic.com.hk

INDIA: Medi Digital Audio Pvt Ltd. , www.mediadigital.com

JAPAN: Synthax Japan , www.synthax.jp

KOREA: Soundcat , www.soundcat.com

INDONESIA: M-Station , www.m-station.biz

THAILAND, CAMBODIA, MALAYSIA:

KDM Trading Co Ltd. , www.kdm.co.th

TAIWAN: MidMall Inc. , www.midmall.com.tw

Middle East

ISRAEL: Music-Shop LTD , www.music-shop.co.il

UAE, EMIRATES: Thomson Trading Est. , www.thomson.ae

IRAN: Raajmaan System Ltd. , www.raajmaan.com

Africa

SOUTH AFRICA: Tuerk Music Technologie , www.tuerkmusic.co.za

All other countries: Please check www.rme-audio.com

Worldwide distribution

audio ag

MADI / AES Technology . Made by RME

**NEW!** HDSPe MADiface

128-Channel MADI ExpressCard for Mobile Computers

1 x MADI I/O . 24 Bit/192 kHz
MIDI over MADI
No external power supply required



HDSPe MADI

128-Channel MADI PCI Express Card

1 x MADI I/O . 24 Bit/192 kHz
Analog Monitor Out . MIDI I/O . Word Clock I/O
Support for Time Code Option

One cable for all channels. All signals within one optical or coaxial cable. Only two MADI cables will interface a full 64-channel application, a stage, a theatre, or a conference hall - lossless - over distances of up to 2000 meters!

Today MADI is an attractive and convenient interface technology, as it provides the simplest method of transmitting audio channels sample-accurate over long distances. The balance between operating distances, installation costs and overall maintenance is exemplary.

RME has developed innovative technologies to make MADI products even more useful and attractive. RME brought the MADI technology to perfection and made it affordable as well. The RME MADI products combine different audio standards such as AES/EBU, ADAT and TDIF into one MADI audio system. Any MADI installation will remain an open system, easily expandable, using RME devices or products from any other major pro audio brand.

Remote Control. All RME MADI devices can be remotely controlled via MIDI over MADI from a remote software. Allowing not only placing the devices on stage, near the microphones, but controlling them from your mobile computer.

HDSPe MADiface and HDSPe MADI are fully compatible to all devices with MADI interface. Of course they can be used perfectly in combination with RME's own MADI series products, like the high-end MicPreamp Micstasy. With the ADI-648 an 8 x ADAT optical PC interface is realized, unbeatable in price and performance. With the ADI-6432 a bidirectional AES/EBU frontend with 64 channels is set up hassle-free.

Both cards provide full support for 56 and 64 channel modes and double and single wire technology (96k frame) for 96 kHz. Full 64 channel support can also be found in the hardware mixer TotalMix. All 64 inputs and 64 playback channels can be routed and mixed to 64 physical outputs completely freely, which translates to an 8192 channel mixer.



Micstasy

8-Channel high-end Preamp & AD Converter



ADI-8 QSM

8-Channel high-end AD/DA Converter



ADI-642

8-Channel AES/EBU <-> MADI converter



ADI-6432

64-Channel AES/EBU <-> MADI Converter



ADI-648

64-Channel ADAT <-> MADI Converter



MADI Router

8 x 64-Channel MADI Switcher / Router

MEDIA MATTERS

Germany's competitive television market is the largest in Europe, with some 34 million TV households. The many regional and national public broadcasters – organised in line with the federal political structure – vie for audiences with powerful commercial operators. Each of the country's 16 regions regulates its own private and public broadcasting.

Around 90% of German households have cable or satellite TV, and viewers enjoy a comprehensive mix of free-to-view public and commercial channels. This has acted as a brake on the development of pay-TV services.

Germany is home to some of the world's largest media conglomerates, including Bertelsmann and the publisher Axel Springer. Some of Germany's top free-to-air commercial TV networks are owned by ProSiebenSat1, a consortium led by a US billionaire.

Germany is rolling out digital radio and TV, and aims to switch off its analogue TV transmitters by 2010. Public TV broadcasters ZDF and ARD offer a range of digital-only channels.

VITAL STATISTICS

FULL NAME	Federal Republic of Germany
POPULATION	82.5 million (UN, 2008)
CAPITAL	Berlin
AREA	357,027km ² (137,849mils ²)
MAJOR LANGUAGE	German
MONETARY UNIT	1 euro = 100 cents
MAIN EXPORTS	Motor vehicles, electrical machinery, metals
GNI PER CAPITA	US \$38,860 (World Bank, 2007)
INTERNET DOMAIN	.de
INTERNATIONAL DIALLING CODE	+49

Studio Hamburg Leads Wave of Euphonix Installs

Studio Hamburg, one of Germany's most prominent production and service centres for film and television, has installed a Euphonix System 5-MC integrated DAW controller in its main Nuendo mixing and editing room. JIM EVANS reports.

Owned by Norddeutscher Rundfunk (NDR), Studio Hamburg Post Production services all aspects of post-production including video and audio editing, format-conversion, audio mixing, and layback. Hamburg Post Production produces virtually all the post-production work for television, film, and other productions done by Studio Hamburg including Tator (Site of Crime), one of the country's longest running television series.

Studio Hamburg Mixer, Christoph Metke, who once worked on a dozen separate systems, can now achieve the results using the Euphonix System 5-MC and a single Nuendo workstation. The Euphonix console with EuCon protocol allows direct control over all parameters just like a traditional mixing console. The Nuendo DAW

not only allows unlimited track count for the sound designer, but also includes sophisticated film style mix automation. Nuendo project files now include the mix as well as the reference video, so the entire completed project is located in one folder on the workstation.

"We finally have a standardised platform for the exchange of files. More than anything, this reduces the preparation time to configure various systems and backup projects," said Metke. "I am glad we were involved with this new technology from early on as I believe this workflow system will quickly make huge inroads into the industry."

This installation of the Euphonix System 5-MC with 48 faders is the largest in Germany. Over the course of the next year, the studio's network will be expanded and all workstations

throughout Studio Hamburg will be connected to improve the transfer of projects.



"On the creative side, not only does this new technology simplify the mixing of various audio formats but also integrates a host of high-quality effects processors that replaces an arsenal of outboard equipment accumulated over the years. All effects are now part of the project file, and can be quickly brought up and edited in the future," concluded Metke.

Studio Hamburg represents just one of many System 5-MC recent installations across Europe. In addition to Studio Hamburg, Accent Studios in Moscow, Paul Davies in London, Fundamental Studios in Ireland, Fraunhofer Institute in Germany, and VaVaVoom and Wave Studio in Netherlands have all purchased Euphonix System 5-MCs.

"The demand for the Euphonix System 5-MC is growing rapidly in Europe. In these tight economic times studio owners recognise the value for money of our products, as well as protecting their investment. For instance, the EuCon protocol clearly offers a path for studio owners to control any of their DAW rigs with only one control surface, and they have the option to change or add DAWs," said Chris Hollebhone, Director of European Sales.

Deutsches Theatre Moves with Dynacord

An extensive programme of renovation and refitting has required the Deutsches Theatre in Munich to temporarily bid farewell to its permanent home in the city centre. For the next three years, the company will continue its theatrical tradition in temporary accommodations at a four-marquee, 3,750m² facility within a colony of marquees in the suburb of Fröttmaning, north of Munich.

Sound reinforcement in the temporary venue was installed by Minos Sicherheitstechnik who opted for a Dynacord ProMatrix 4000 system complemented by Electro-Voice loudspeakers. Comprehensive 3D simulations were conducted using the programme Ulysses to ensure adequate intelligibility in all the requisite areas.

Thomas Sterling of EVI Audio comments, "To create our 3D model, we had to enter not only the room's dimensions, but also the nature of every material in the room, from the tarpaulin that forms the walls

and ceilings of the marquees to the upholstery of the chairs in the stalls. Our simulations are incredibly detailed in order to ensure that our loudspeaker configurations can deliver the desired effect."

The new system at the Deutsches Theatre uses truss-mounted Electro-Voice Sx300PIX speakers in the 1,700-

seat main marquee, and truss-mounted EV EVID 4.2T speakers in the ancillary marquees. The system also provides coverage in the walkways and open spaces between marquees, as well as in the rest rooms, dressing rooms, and stage and wardrobe areas. The entire system is powered by a 2,000W amp rack.



Sound Trekker on the Road with SSL

Marco Breidenbach's portable Sound Trekker Studio is in demand all over Europe. And at the centre of this bespoke and eminently portable facility sits a Solid State Logic AWS 900+ console. One of the first projects to use the new desk was to record Joss Stone and her 10-piece band with Engineer friend Hans-Martin Buff.

Breidenbach wanted to step 'outside-the-box' to achieve punchier, wider, and tighter mixes – the kind that he was used to hearing from all of the earlier work he'd done on SSL consoles. "I wanted the legendary SSL sound with no compromises, but also combined with DAW control. He tested the SSL at his studio to see if it could cope as a viable centre-piece for the new and portable Sound Trekker Studio.

"Within a day I set up and connected the AWS 900+ to my studio, including the Studer A80 2-inch, Pro Tools HD 4, and the studio's extensive range of analogue outboard gear. Once installed, I then began heavily testing the mixing capabilities.

"Sound Trekker Studio recently re-opened after making the studio all mobile, including full patchbay, outboard racks and, of course, the AWS 900+. We've branded it as Sound Trekker Studio, 'The World Class Studio To Go'.

"With the SSL I'm just more efficient in getting a great result, and it's so much faster when you can touch a real fader in the analogue domain rather than using a mouse to tweak the mix. Most of all, it brings back the human touch to any mix. Every mix now sounds much more transparent, stereo placement is precise, and everything is exactly there, where I think it should be.

"And the third dimension has been added to my mixes – something that I always missed when staying purely in the digital domain. In the recording process the 24 on-board mic pres are exactly what I was looking for to get tracks taped quickly in such quantity and with such a great sound. From the day I bought it, the SSL immediately became another instrument that adds sound personality to everything I do on it."



M'elodie Transforms Landmark Berlin Theatre

Meyer Sound's M'elodie line array loudspeakers are taking centre-, left-, and right-stage at the Friedrichstadtpalast, one of Berlin's key theatres. The Friedrichstadtpalast lies just beyond the old Checkpoint Charlie where East once confronted West in Germany, but today stands as a high-tech marvel in a city brimming with innovation.

Boasting the largest indoor stage in the world, at 2,542m², the Palast was conceived as a technical tour-de-force from its outset in 1984, featuring staging and rigging intricacies capable of hosting the most outlandish and ambitious productions.

"This theatre was very famous in the time of the DDR (Deutsche Demokratische Republik/German Democratic Republic)", says Technical Director Franz-Josef Münzebrock.

The newly installed audio system is based around Meyer Sound's M'elodie line array loudspeaker, CQ-1 and CQ-2 loudspeakers, and MM-4 miniature loudspeaker. The central line array is comprised of eight M'elodie loudspeakers, supported by three 700-HP subwoofers. The left and right hangs each consists of ten M'elodie loudspeakers, also underpinned by three 700-HP subwoofers on each side. A centre-left and a centre-right hang, used for the orchestral program, each uses six M'elodie loudspeakers.



Sirius Joins Kudo Programme

Sirius Showequipment, one of Germany's leading tour sound rental companies, has joined the L-Acoustics K1/KUDO Pilot Programme. CEO Wolfgang 'Schabbach' Neumann is excited at the prospect of using the system for this year's open-air season.

"We were very impressed by the power capability of the system, especially the fact that distribution is so equal in both the horizontal and vertical planes," he says. "But what's really struck us is the great response to the system from our customer base. Our new L-Acoustics K1/KUDO system will be the backbone of our rental activities throughout 2009, and the system will be on the road all season.



This is Sirius Showequipment's first purchase of L-Acoustics systems after years of positive experiences renting V-DOSC, dv-DOSC, and KUDO on a dry hire basis. The system will comprise 48 K1 line source cabinets, 24 K1-SB subs, 24 SB28 subs, 24 KUDO line source cabinets, 12 dv-DOSC compact line source enclosures, and 75 LA8 amplified controllers installed in LA-RAKs.

Jochen Frohn, Business Development Director at L-Acoustics, adds: "Sirius has been looking at buying an L-Acoustics system for some time and has amassed a lot of positive experience of working with our products. It's great news for us that they are part of the K1/KUDO pilot program.

Innovation, not imitation.



The Retro plug-in line from McDSP is a new class of plug-ins with vintage style and completely original designs, backed by McDSP's reputation for superior reliability and customer support.

The Retro Pack includes 3 all new plug-ins; EQ, Compressor and Limiter. They can live up to their own name without emulating something else.



Hitting Your Own Headlines

Cut backs and slim-downs are the order of the recession, and the big TV companies are doing just that in order to claw back some massive debts – and making their own news headlines while doing so.

There is an odd phenomenon in the media when those in it start talking about their particular medium, which is almost as bad as people talking about themselves. This can be self-congratulatory or merely navel gazing, but what we've seen over the last couple of years is television or radio making the news headlines, often topping the running order over political and social affairs.

That's happening in 2009, but as part of the general coverage of the recession. Commercial broadcasting has been hit by the downturn in advertising revenue, leaving ITV plc, Channel 4, and Five to reduce operations and staffing levels. ITV has been making the most drastic changes, shedding 1,000 jobs in the past year, with another 500 expected to go this month.

The network is also looking to further slim down its facilities, with the studios in Leeds under threat. The broadcaster has further sold its 70 percent share in band manager JFMG to Arqiva for £1 million, and is rumoured to be looking to offload social networking website Friends Reunited. Even with this injection of cash, ITV is nowhere near covering its massive debt or £2.6 billion pension fund.

C4 is cutting back on its operations by taking the outsource route, contracting Red Bee Media to handle its play-out, engineering, and graphics requirements, which it hopes will make annual savings of between 10-15 percent. In the middle of last year, C4 abandoned its plans to launch several radio services on the second national DAB multiplex, and by the end of 2008 there was even talk of the broadcaster merging with the third commercial network, Five. There has been no further word on that, but Five is likely to axe 115 jobs this month.

The BBC, while not affected directly by what is described as the worst advertising recession for over ten years, has been slimming down under a programme called 'Fewer, Bigger, Better', which began in 2007. A new problem for the Corporation is that the additional trim expected by selling off BBC Resources did not happen as completely as planned.

BBC Outside Broadcasts was sold to SIS, but BBC Studios was taken off the market at the beginning of 2008. Like OBs, the studios and post-production operations were put out to a bidding process, and although there was interest in the former from the Pinewood Group and the BBC was talking to a preferred bidder for the latter, both have been retained within BBC Resources. That decision prompted the company to draw up a major re-structuring plan to maintain operations and remain competitive.

The Chief Executive of BBC Resources, Mark Thomas, said the decision not to sell BBC Post Production and BBC Studios meant, "we are left with a different future from the one we expected for BBC Resources. We are still a wholly-owned commercial subsidiary of the BBC and need to act accordingly." Redundancies were planned for BBC Studios in the areas of vision mixing, audio, safety, resource management, cameras and support staff, with a loss of 36 posts.

Retaining BBC Post Production within Resources has given the BBC the opportunity to finish a re-examination of its longer-term post-production needs. This division is also being restructured, but

Thomas said the scale of the changes would be greater, resulting in a higher number of job losses. In London 98 posts will be closed, while, initially, 76 positions across the post operations in Bristol and Birmingham were under threat. As many of the post jobs involved are still required at these production centres, staff will be offered the opportunity to transfer to the BBC rather than take redundancy.



Mark Thomas, Chief Executive at BBC Resources.

BBC Resources held meetings with the unions during late February and will be instigating a 'preference exercise', under which discussions will be held with staff in the areas designated for cuts. These will determine whether personnel are willing to take redundancy or if they can be re-deployed within the BBC. The affected positions within post production include editors, assistants, colourists, support, current operations, the stock and hire shop, tape recycling, and engineering.

Even though there will be fewer personnel to run them, the facilities within BBC Resources still need to be updated to remain competitive and offer the best service. At the end of the year, BBC Studios opened a new HD studio, bringing to three its number of upgraded facilities. BBC Post Production is following the trend and recently announced its second 5.1 audio suite. The Blue Theatre works alongside the existing Red Theatre at Television Centre, and is equipped with a Digidesign Pro Tools HD digital audio workstation in combination with an Icon D-Command controller.

The demand for 5.1 audio on TV programmes is increasing as it is seen as the best accompaniment for high definition, and the BBC HD channel will be increasing its services to nine hours a day during 2009. The ideal situation is to have spangly new surround mixes for programmes, but the reality is often that the budget won't stretch to 5.1 or the post-production process is too well advanced to accommodate a full multi-channel mix.

In these cases BBC Post Production is offering a new stereo to 5.1 up-mixing service, based on TC Electronics' UnWrap technology. Chris Graver, who is in charge of the up-mix operation, said up-mixed soundtracks for certain genres performed with 'sufficient care' were difficult to distinguish from original 5.1 mixes. Graver added that up-mixing took less time than creating 5.1 from nothing, and the whole process was "extremely cost effective".

In these straitened times, producers will be happy to hear that, and the BBC will be keen to bring in new business, although it is probably keener to keep out of its own news headlines in the future. **AM**

The new Blue Theatre at Television Centre.





A Very **Intelligent** Controller

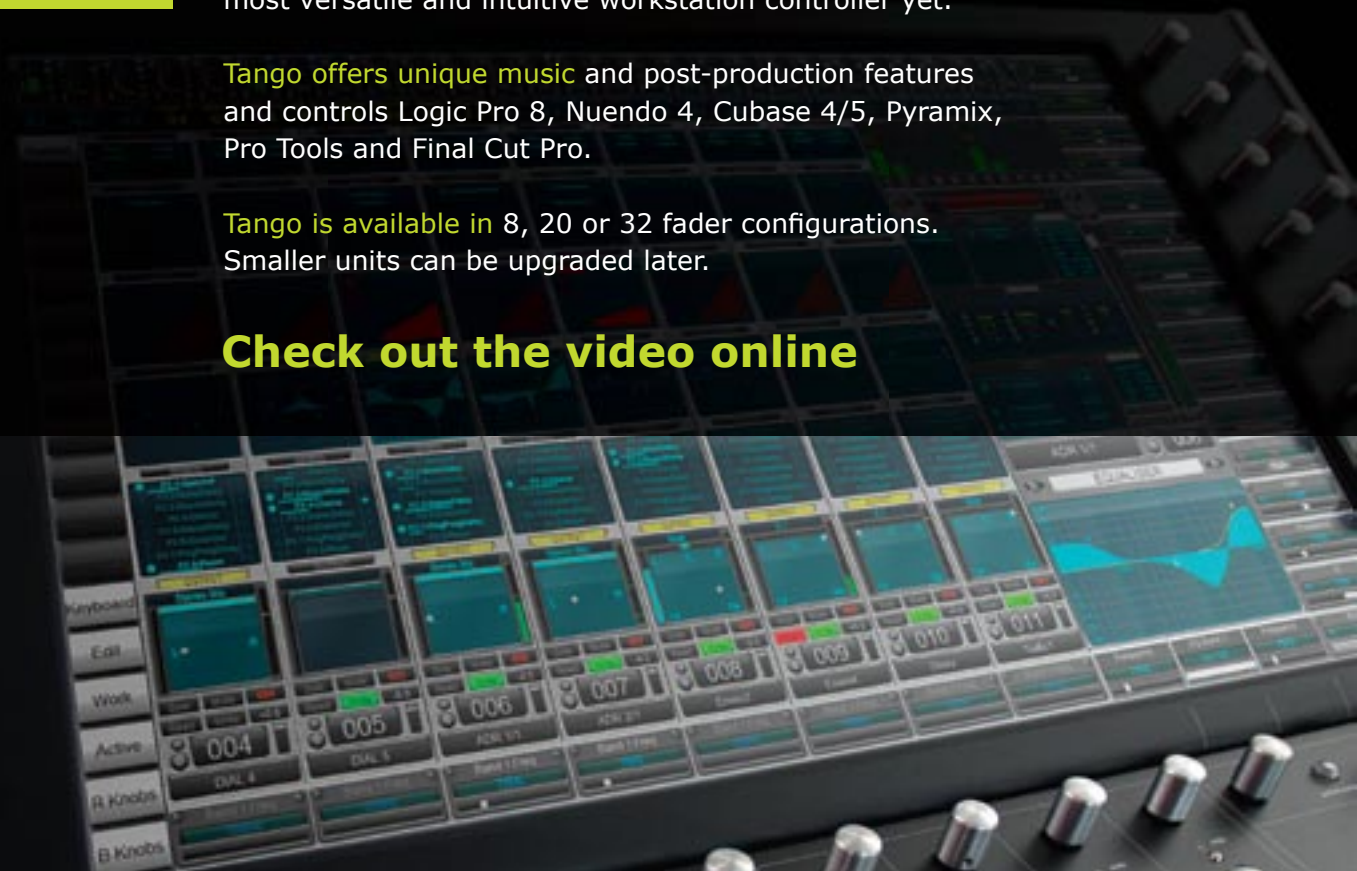
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Tango offers unique music and post-production features and controls Logic Pro 8, Nuendo 4, Cubase 4/5, Pyramix, Pro Tools and Final Cut Pro.

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Broadcast Report

Grammys Audio: A 'Mixed' Bag

An increase in live performances means the audio crew really had to raise their game to record this year's Annual Grammy Awards.

STEVE HARLEY witnesses how they pulled it off.

Every year, producers for music's biggest night, the Recording Academy's Grammy Award telecast, challenge the audio crew to raise their game, and every year they come through, pulling off the seemingly impossible. This year's biggest challenge was an increase in live performances of some 25 percent, which was met by a change in the music mixing arrangements implemented this year.

For this, the 51st annual Grammy Award show, XM/Effanel Music's Nova music mixing remote truck was being used in tandem with the company's larger L7 vehicle to allow each artist's representatives to fine-tune their pre-mixes leading up to the broadcast.

During previous years, a mirror-image mixing setup was established in a temporary building next to L7, and once an artist finished their allotted one-hour production rehearsal, the music mix was taken on a hard drive to the neighboring mix room for further work offline. But this year, with L7, which is outfitted with a Digidesign ICON D-Command, and Nova, which boasts a D-Control offering MADI connectivity, a mix was available as soon as the artist stepped off the stage, reportedly creating as much as 18 additional hours of rehearsal time for music mixers John Harris and Eric Schilling.

With the number of performances up this year from a typical 16 or 17 to two dozen, said Hank Neuberger, a Supervisor of the Grammy Awards broadcast audio, during rehearsals prior to the broadcast, "The interconnectivity

opened a couple of new opportunities: virtually instantaneous access to a mix the second a band walks off the deck, and, secondly, the opportunity to audition inputs from the deck while there's a live telecast mix going on in L7."

While an artist is performing on one of the show's two stages during the live broadcast, he elaborated, "Being able to redirect the MADI stream, they can do the essential line check confirmation in the Nova truck [for the next performance] while the first band is still onstage, then mix it where it needs to be mixed, in the L7 primary truck."

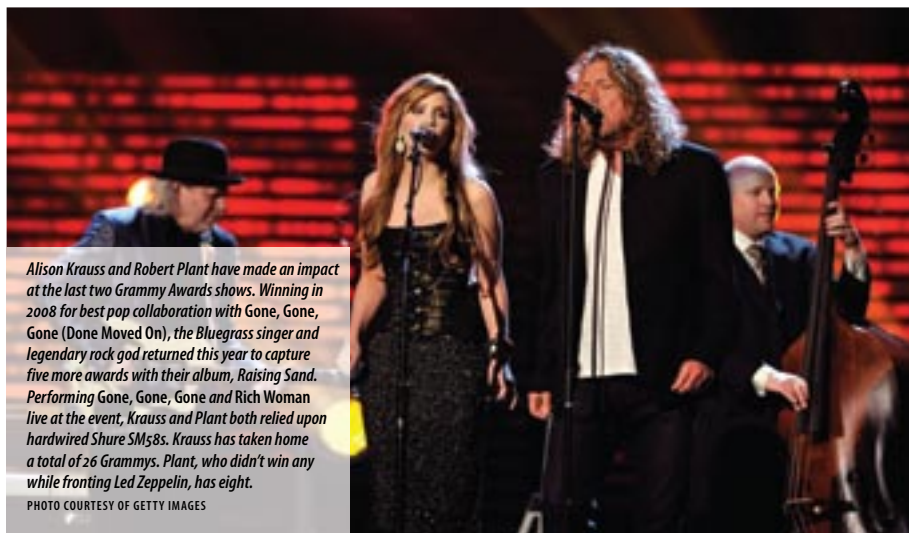
In previous years, a dedicated audio engineer has been employed to pre-mix as many as four

dozen microphones positioned in the audience for the Broadcast Production Mixer. "In our Recording Academy television committee we have an interest in really trying to capture the live experience in the hall, and transmit that on the show," said Neuberger. "We're always looking for where the hotspots in the audience are in an industry event."

This year, 24 mics were deployed around the Staples Center arena, located in downtown Los Angeles, with a single point source Holophone mic providing

the main audience image. "I'm a giant fan of this device," he enthused. "It captures a beautiful 5.1 soundstage." According to Neuberger, Tom Holmes, returning as Broadcast Mixer for his third year, "felt he could get a faster response, and bring that energy of the fans into the mix much quicker if he had those audience faders on his desk."

"In our Recording Academy television committee we have an interest in really trying to capture the live experience in the hall, and transmit that on the show"



Alison Krauss and Robert Plant have made an impact at the last two Grammy Awards shows. Winning in 2008 for best pop collaboration with Gone, Gone, Gone (Done Moved On), the Bluegrass singer and legendary rock god returned this year to capture five more awards with their album, Raising Sand. Performing Gone, Gone, Gone and Rich Woman live at the event, Krauss and Plant both relied upon hardwired Shure SM58s. Krauss has taken home a total of 26 Grammys. Plant, who didn't win any while fronting Led Zeppelin, has eight.

PHOTO COURTESY OF GETTY IMAGES



The Recording Academy held its second annual Grammy Week event at The Village Recording Studios in Los Angeles coincident with the 51st Annual Grammy Awards. Celebrating the work of legendary music men Tom Dowd, Ahmet and Nesuhi Ertegun, Arif Mardin, and Jerry Wexler, the event was put together by the Recording Academy Producers & Engineers Wing, P&E Wing Senior Executive Director Maureen Droney and Co-Chair Glenn Lorbecki, along with the Village Studios CEO Jeff Greenberg and Co-Chairs, Producers Nile Rodgers and Jimmy Douglass. Shown are (l-r): Lorbecki, Droney, Joe Mardin, Rodgers, Douglass, Cheryl Dowd, Dana Dowd, Paul Wexler, Jimmy Jam, and Greenberg.

PHOTO COURTESY OF THE RECORDING ACADEMY™/ WIREIMAGE.COM © 2009. PHOTO BY RICK DIAMOND

Last year was the first time that the telecast was produced in 5.1 without a dedicated stereo mix, to dovetail with the infrastructure at CBS as the network made the digital transition. But, Neuberger noted, "For anyone listening in 2.0 on two speakers on their television, which at any given time is about 90 percent of the audience, that 2.0 mix is derived from the 5.1, which happens at your set-top box. So we have to transport a surround soundtrack from here to New York, to the satellites, to the cable head ends, to the home. But we have to have some confidence that the way we're monitoring the downmix here is the way it's getting to your home."

"Despite the overwhelming number of performances this year, said Audio Co-ordinator Michael Abbott before the telecast, there's no reason why the show shouldn't be as good, if not better, than previous years."

Assistance from Dolby Labs was critical: "We are so lucky with the commitment Dolby has made to support this show. We really rely on Dolby and its engineers to set this up and match the CBS metadata parameters," he said.

Dolby also provided its LM100 measurement tool for each mix position, so that mixers could get an accurate view of the show's dialnorm settings. That added one more level of confidence to ensure a more uniform and accurate signal, said Neuberger.

Despite the overwhelming number of performances this year, said Audio Co-ordinator Michael Abbott before the telecast, there's no reason why the show shouldn't be as good, if not better, than previous years. "It's pretty much the



This year, broadcast production mixer Tom Holmes also controlled the levels of the audience microphones, which were submixed separately in previous years. PHOTO COURTESY OF THE RECORDING ACADEMY™/WIREIMAGE.COM © 2009. PHOTO BY: JOHN SHEARER.

same crew, and the tried-and-true method. We were successful beyond expectations last year, both with the show and with awards that the show garnered, and we have the usual high expectations," he said.

Glenn Lorbecki, the Academy's P&E Wing Co-Chair, was equally bullish: "It becomes more

and more clear, with every award show that I watch, that this is such an exceptional show. They don't allow track performances; there's no lip-syncing – hallelujah! It just sounds better and better every year." **TM**



Music mixers (l-r) John Harris and Eric Schilling mixed alternate performances on the Digidesign ICON in the XM/Effanel L7 truck during the Grammy Awards telecast. PHOTO COURTESY OF THE RECORDING ACADEMY™/ WIREIMAGE.COM © 2009. PHOTO BY: JOHN SHEARER.

STUDIO IN A BAG

Zaxcom's **Fusion** is the perfect location sound solution for multi-track high resolution recording, mixing and effects processing of sound for picture.



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BLACKBOX RECORDER

Capturing Live Performance Sound



The **BLACKBOX RECORDER** captures multi-track live sound directly to USB2 disk in BWAV file format, letting you leave your DAW at the studio.

Simple Live Multi-track Capture

The **BLACKBOX RECORDER** from JoeCo simplifies capturing multi-track recordings of live performances. Taking a laptop or full digital audio workstation into the live environment can be a harrowing ordeal, fraught with potential boot up delays, stability and fragility issues, and the operating system deciding that its priorities are not necessarily the same as the engineer's. The **BLACKBOX RECORDER** has a dedicated operating system; records up to 24 separate BWAV files directly to a regular USB2 drive, and is ready to record in less than 10 seconds from power up. Just press the Record button and you're capturing the performance.

Small Footprint

Physically, the **BLACKBOX RECORDER** is a 1U rack-mounted steel box with a sleek front panel concealing touch sensitive controls and colour display. It has no moving parts – even in the switches. Rugged enough to handle a life on the road, and because of its small size, it takes up much less rack space than other recorders.

It uses a regular USB2 drive – the sort of drive that can be obtained from any Internet retailer at a very reasonable

price. For example, a 500GB drive will store approximately 20 hours of 24 track material at 24-bits/96kHz (and over 40 hours at 48kHz). And because it records in industry standard mono Broadcast WAV files (BWAV), virtually all digital audio workstations can use the files directly without having to waste any time uploading, transferring, or converting them – just unplug the drive from the **BLACKBOX RECORDER** at the end of the gig and plug it directly into your workstation back at the studio, and you're ready to work on the performance that you've captured.

Designed For Live Work

The primary aim of the **BLACKBOX RECORDER** is to capture live performances, so certain safeguards have been designed into the unit from the ground up. Once

in Record, the Stop button must be held down for two seconds to end a recording, to prevent accidentally ending a recording. Similarly, the playback facility will normally be locked out after a recording to prevent you inadvertently

pressing Play at the wrong time – like in the middle of the performance!

The standard **BLACKBOX RECORDER** has 24 channels of analogue inputs using quality 24-bit/96kHz converters. The input levels are selectable to accommodate the outputs of your mixing desk, and the unit will normally plug directly into the insert points on your console just after the mic amps.

The 24 outputs (again 24-bit/96kHz) are fed

back to the insert returns, and provide the increasingly popular Virtual Sound Check facilities previously unavailable on any equipment at this price point.

Sample Rates Supported:

44.1kHz, 48kHz, 88.2kHz, 96kHz

Analogue Inputs & Outputs

Levels: -10dB/+4dB switchable

Max levels: +20dBu = 0dBFS

A-D and D-A conversion:

24-bit, 96kHz

Timecode

All standard frame rates supported

Physical

19" rack mountable – 1U high

Dimensions: 425mm x 150mm x 44mm

Weight: 2.1kg;

dc input: 7.5V - 12V

Power consumption: <25W



In addition, eight of the insert returns are brought out to TRS 1/4" jacks on the rear of the unit so that you can still plug external units such as compressors or EQs into your insert points (and hear the effect during any virtual sound checking as well).

The colour display is clear and easy to read, changing colour to indicate status. LED Metering is provided for all channels with the variable brightness being determined by the input level. Typically, input level adjustment will be handled by the mic amp gains on the desk. For larger gigs the **BLACKBOX RECORDER** can be plugged into a clean feed from separate mic amps such as a broadcast feed from the stage box.

A headphone output allows the monitoring of each track individually or a rough mix of all the tracks being recorded. The overall headphone volume is adjustable, and each track is passed through a monitoring compressor to aid audibility in the live environment.

A simple front panel menu-driven user interface allows the more detailed set-up options to be adjusted, with the data wheel doubling as a scrub wheel to locate specific points in songs. This allows the simple creation of playback loops whilst perfecting the front of house or monitor mix for the band.

Other Interfaces

There is a keyboard interface so that individual tracks can be labelled, as indeed can the songs themselves. Dividing a long capture into individual songs can be achieved by pressing the Record button during the gaps between songs, or by using an optional footswitch to start a new recording. However, the gaps will be sample accurate so that the recordings can be joined back together again perfectly in your workstation if you make a mistake and press the button at the wrong time.

All standard sample rates are supported, and word size can be adjusted down to 16-bit if preferred.

The whole unit can be synchronised to an external word clock using an AES/EBU or S/PDIF signal. It accepts both Linear Timecode (LTC) and MIDI Timecode (MTC) for time stamping recordings – especially useful when making a multi-track recording to accompany a video shoot.

The unit will also accept commands via the MIDI Machine Control (MMC) protocol, or via Sony PII (9-pin) control for track arming, transport control features, and the like.

Expansion Possibilities

Optional digital interface cards are available to enable record and replay via AES/EBU or ADAT Light-pipe interfaces. These interfaces allow

direct connection to digital mixing consoles. There's also an optional interface box that provides fully balanced I/O for mixing consoles that require it. Software updates can be uploaded via the USB2 interface by using a standard USB memory stick.

Multiple **BLACKBOX RECORDERS** can be linked together to create sample accurate recordings over more than 24 channels. The slave units take their commands from the master unit so that all the recordings will be sample accurate and start in sync on the same sample, making remixing much simpler back in the studio.



JoeCo has been founded by Joe Bull, formerly Managing Director of Studio Audio & Video Limited, the creators of

the SADiE Workstation range. Prior to SADiE, he worked as an Audio Engineer both in the studio, and mixing live concerts and festivals. This legacy brings a wealth of experience built up over 30 years of recording and capturing the best performance possible.



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Close Your Eyes, it's Not Just Imagination – it's Thriller

MOJO WORKING braves the midnight hour, and under the moonlight steels its nerves to peek (between fingers) at the production of one of Michael Jackson's biggest hits, *Thriller*.

Twenty-five years ago Michael Jackson's *Thriller* album won a record-breaking number of Grammy Awards and, according to a Time magazine article in March 1984, single-handedly restored confidence in the record industry. *Thriller* picked up seven Grammy Awards in 1984, with an additional, unrelated award in the Best Children's Recording category, for *E.T. the Extra-Terrestrial*, bringing

Jackson's haul to eight, a figure unrivalled by any single artist until Carlos Santana equalled it in 2007.

Hitting The Highs

With the record industry having slumped from a high point in the late '70s under the impact of independent label punk and synthesiser music, *Time* magazine called Jackson "a one-man rescue

team for the music business." At that time, *Thriller* had been lodged at the top of the US album charts for 33 weeks, selling one million copies a week worldwide, according to Epic Records, and was on its way to becoming the best-

selling album of all time – a position that it retains. The Guinness Book of World Records credits *Thriller* with 65 million copies, and there is conjecture that it may have sold as many as 109 million.

Thriller also redefined the number of singles that could be spun off an album. Of the nine tracks, seven became singles, with all of them charting in the Top 10 and two of them reaching the top slot in the US, with similar success worldwide.

Successful Attributes

Much of the success of *Thriller* can be attributed to Producer Quincy Jones, a musician, Arranger, and Producer who is also no stranger to the Recording Academy, having won more Grammy Awards – 27 – than anyone alive. According to

"Swedien had hoped to encourage his Great Dane, Max, to perform on the title track.

"We had a small farm in California and we took Max out by the barn at night to listen to the coyotes and see if that would inspire him, but it didn't. We ended up having Michael do all the wolf howls."

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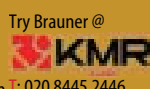
Elliot Scheiner: Steely Dan, Toto, Van Morrison, Fleetwood Mac, Sting, ...

"I got a call from a friend of mine who was working on a Janet Jackson mix that we had recorded vocals on and the producer, Rodney Jerkins, kept asking about the vocal sound, what mic we used, if it was a vintage mic. I had to smile when I told him it was not a vintage mic but a Brauner VMA! I LOVE my mic!"

John Horesco IV: Jermaine Dupri, Janet Jackson, Usher, Mariah Carey, ...



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Quincy Jones, Michael Jackson, and Bruce Swedien.

Recording Engineer Bruce Swedien, recognised with a Grammy for Best Engineered Recording, Non-Classical for *Thriller* (on his way to a career total of five), Jones was adamant that *Thriller* would be a momentous album from the very beginning. "Quincy's mandate to all of us involved in *Thriller*, including Michael, was that this had to be the most unique, most unusual sounding recorded music ever," recalls Swedien, now in his 70s and still working hard. "Quincy's real mandate was to make an album that was recorded with sounds that people had never heard before. It would have been easy to try to duplicate whatever was the flavour of the day, but Quincy and I never wanted to do that."

Swedien, who had previously worked with Jackson and Jones on the *Off The Wall* album, continues, "The first session on *Thriller* was at 12:00 noon on Wednesday, April 14, 1982. It was at Westlake Audio's beautiful new Studio A on Beverly Boulevard in Hollywood. That first session was Michael Jackson and Paul McCartney recording *The Girl Is Mine*. To have those two in the studio, singing, was a joy beyond compare."

Much has been published over the ensuing decades about the recording of *Billie Jean*, a song that is instantly recognisable from the very first beat of the kick drum. Responding to Jones' challenge, Swedien, with drummer N'dugu Chancler on *Billie Jean*, worked hard to create unique drum sounds, using a combination of a custom kick drum cover, plywood platform and isolation between the snare and hi-hat mics. "I still use it on almost all of my projects," says Swedien of the bass drum cover, adding, "I still use a lot of the techniques that started on that recording."

Wolfish Techniques

The sessions, which stretched into early November (the album was released November 30), involved some new technology, he says, especially on the title track. "We had a huge [New England Digital] Synclavier, which was Michael's. It's a fantastic piece of equipment, and could do just about everything we can do today with digital audio workstations."

Swedien had hoped to encourage his Great Dane, Max, to perform on the title track. "We had a small farm in California and we took Max out by the barn at night to listen to the coyotes and see if that would inspire him, but it didn't. We ended up having Michael do all the wolf howls."

He continues, "There's a whole 24-track just of the intro elements. Much of the sound effects I ended up editing on the Synclavier. It's very difficult to use, but we were really blessed because we had Chris Correll, who did the Synclavier work;

he was a master. That took the sonics of that piece of music way ahead of anything else at the time."

In The Background

At the opposite end of the technology scale was a gimmick Swedien employed for a vocal effect on *Billie Jean*, for the background response, "Don't think twice/Do think twice." He explains, "I wanted a very unique sound on that one little line but there was no processing equipment at the time that would do it." By chance, someone had left a six-foot-long mailing tube in the studio. "Michael had his earphones on in the vocal booth and he sang the line through this tube. It gives it such a wonderful filter and a unique effect."

Jackson, who added some rhythmic parts by playing on drum cases with his hands on *Beat It*, also added some foot percussion (he's credited with 'bathroom stomp board' on *Wanna Be Startin' Something*). "If we had him stomp on the floor, we found that the sound of that coupled across the floor with all the low frequencies going into the other microphones, had no presence,"

says Swedien. "So I had the studio carpenter build a two-foot-square platform to keep the sound off the floor."

Another Level

Looking back, he says, "I absolutely love *Off The Wall*, but *Thriller* took us to another level. Working with Quincy and Michael is such a joy. Quincy and Michael have always allowed me total freedom when it comes to creating these sonic landscapes, and I think it shows in the work."

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Thanks to Mojo Working International for putting this feature together.

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SIMON TILLBROOK spends a little time with SE's IRF, filtering the good from the bad and the ugly.



THE REVIEWER

SIMON TILLBROOK is the Principal Music Tutor at Islington Music Workshop in London. The rest of his time is spent as a freelance engineer, mainly in the USA.

Amongst the array of equipment I have assembled over the years is the SE Electronics Reflection Filter. I am sure you are, at the very least, aware of this crescent-shaped acoustic shielding device, primarily aimed at vocal recording in less than ideal environments.

I have found this to be very useful indeed in numerous studios and, in particular, on location recordings, but the size does limit the number of practical possibilities when it comes to instrument recording. SE Electronics has addressed this with the introduction of the IRF (Instrument Reflexion Filter).

Running through the centre of the SE IRF is a hole about 3.5cm (c.1.5 inches) in diameter. There is a clamp on the inside of the IRF for holding whatever you pass through the hole in place. A foam bung is supplied with the IRF for applications where the hole is not being used.

The overall feel is that the SE IRF is reasonably well constructed. The main body of the unit is good, but I do have some reservations when it comes to the microphone clamp. Only time will tell, of course, but the design is such that replacement would be a straightforward job to

SE ELECTRONICS INSTRUMENT REFLEXION FILTER

Portable Acoustic Filter

A Genetic Resemblance

Looking at the SE Electronics IRF, it resembles its larger counterpart almost completely. The IRF dimensions are a compact 20cm (eight inches) wide by 16cm (6.5 inches) high, by 10cm (four inches) deep. There is the same pierced metal semi-circular design with three layers of acoustic material lining the inside. Where the larger Reflection Filter compacts these layers together into one larger, thicker surface, the IRF layers are quite distinct with a good air gap between each of them.

On the rear of the SE Electronics IRF is a clamp for attaching to a standard microphone stand.

do as the clamp is screwed, rather than moulded, to the body of the IRF.

Size Is Everything

I took some time to try a few configurations you can use with the IRF. The size and shape of the hole obviously limits the mics that can be placed through it to get the capsule tight inside the IRF body. Small diaphragm pencil designs (inc. the SE range) are the obvious design orientation here, and any handheld dynamic or condenser, such as SM58, will also fit, but placing a mic stand boom arm through the hole is also a possibility.

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But It Looks So Much Bigger!

When it comes to using the SE IRF on drums, it is clearly all about your performer's choice of drum elements and position. It can be quite an act to get the IRF into a usable position... suddenly the IRF looks so much bigger.

Using the IRF between snare and hat is an obvious area to try. With the mic tight in the pocket of the IRF, the level of separation achieved is particularly pleasing. Reversing the position of the IRF to isolate the hat gave equally good results.

Out front with acoustic guitar using a pair of IRF units achieved great stereo separation. This type of application is where SE probably saw the IRF being used predominantly.

Careful Control Is Key

Tight up on the front of a guitar amplifier some care is needed. You have quite a lot of control here when it comes to low mid response, and it is easy to overcook this by being just that little bit too close. When using different microphones, the body shape made positioning within the IRF tricky, and it is here that you can see some of the limitations. With some popular microphone choices, you may need to explore other ways to achieve separation.

I had five SE IRF units for testing, and one idea that was tried took the five units on different stands and used various combinations to create mini screens and acoustic boxes to place single and stereo pairs of microphones into.

This can, and did, look a little cumbersome with some setups, but useful and creative nevertheless.



Conclusion

I found the SE IRF to be a very useful acoustic isolating device to use. When you have a few of them together it opens up a wide range of instrument recording possibilities. There are limitations in the microphones you can use and position relative to the instruments, but this is not too much of an issue in practice.

As an additional tool for instrument studio recording, the SE IRF is certainly worth spending some time with. 

INFORMATION

- ① IRF GB£149.00 (inc.VAT)
IRF Studio Pack (Flight Cased Set of Five IRFs) GB£599 (inc.VAT)
- ④ SE Electronics USA, 27 Gilman Terrace, Suite 1,
Somerville, MA 02145, USA
- ① +1 617 623 5581
- ⑥ www.seelectronics.com
- ⑤ usa@sonic-distribution.com
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ALISTAIR MCGHEE finds a little interface card with big ideas.

On RME's new website there's no sign of a feature I used to enjoy on its older, much less swish version. There was a menu item labelled 'competitors', which when selected spun a little bar forever or until you pressed 'OK', at which point it replied 'none found'. Cheeky monkeys.

A few months ago I accepted a lift from man convinced that the Germans were terrified of Britain's industrial genius, and that the EU was designed to protect German industry from ferocious UK competition. How prophetic those words appear now. We have totally out competed our Continental cousins in groundless house price speculation, credit card debt, and bank executive bonuses. Ha, they must be gutted to be stuck in the old fashioned world of making things. Certainly in the sound card market, RME (and Marian) are doing very nicely indeed.

without a squeak.

RME doesn't include a paper manual, just a sheet of start-up instructions; and is keen for you to download the latest firmware for your card and the latest driver. I'm still a little bit nervous of flashing firmware, but again the process went very sweetly, and within a few minutes I had the very latest of everything.

Awaited In Anticipation

The HDSPE RayDAT has been eagerly awaited for some time, and that's not surprising when you look at the spec. Four ADAT connectors in and out, sample rates up to 192kHz, and separate SPDIF and AES connectivity. With the card installed, the first thing you need to think about is drivers, but don't think too much – ASIO is the one for you. The RME manual lays out all the info you need, but I found ASIO gave half the latency on record



RME HDSPE RAYDAT

Internal Interface Cards

One Little Letter

I must confess that I didn't pay too much attention to the Editor (sorry, Paul) when he asked me to look at the new HDSPE systems. RME stuff has always been a pleasure to deal with and no hassle. Easy money I thought. However I was taken aback a bit by the arrival of these new cards, which are the first sound cards I have come across designed for the PCIe bus. And that little 'e' makes all the difference.

There are three things certain in this life – death, taxes, and new interfaces to the personal computer. It seems like only yesterday our ISA cards were discarded for the new fangled PCI versions, and now a new motherboard will barely have a PS2 port to call its own. PCI tried to grow up by offering a 64-bit version called PCIX that was backwards compatible – you could fit it into a 32-bit PCI slot if your machine didn't have the longer 64-bit version. It never really caught on, and the next stage was a total redesign and a serial rather than a parallel interface designated PCIe. Which is bad I think (the designation and not the serial bit), because it lulls you into a false sense of security. Just one little letter different – it'll probably fit if I press hard enough.

It was only on opening the box of the RayDAT card and gazing on the severely truncated interface connector that I realised that PCI was so passé. You guys out there probably cottoned on to this years ago – especially the gamers. But when I tell you that my workhorse Internet PC died just the other day, and it had dual PIII processors and an AGP slot – well you'll get the idea.

Fortunately my audio machine is a bit newer, and nestling between the PCI slots I found a PCIe slot into which to plug my RME technology.

I kind of expected trouble at the mill. New interface, new cards bound to be trouble – I even secretly hoped there would be, "A fie on your new fangled serial-based interface." But in truth the install went ridiculously smoothly, and the card fired up

of WDM and a third on playback. Buffer and latency lore could fill a book. The RayDAT offers a range of settings that are fuss-free in selection, I found satisfactory results at 6ms but smaller figures are available if you have a beefier system.

To be honest I struggled to assemble 32 inputs on ADAT – I had planned to sync a couple of Fostex multi-tracks, but in the end I could only get my hands on one. A word about word clocks. RME doesn't provide word clock I/O on the RayDAT on the basis that its Steadyclock technology means that all digital I/Os exhibit very low jitter. So you need to be aware that your kit will need to clock from an ADAT input if you're relying on the RayDAT as a master. I found that the most solid sync was achieved with everything clocked to the RayDAT in master clock mode. Having waded through the 2424 manual, I clocked the Fostex and my Merging Dua off ADAT outputs from the RayDAT, and everything stayed locked down. With the clock sorted I was able to stream a couple of hours of Lesley Garrett on to the hard disk without a murmur. Playback was equally secure, and the card was a pleasure to use. I particularly appreciated having separate SPDIF (phono) and AES (XLR) connectivity. It meant plugging up your monitoring was a piece of cake and really flexible.



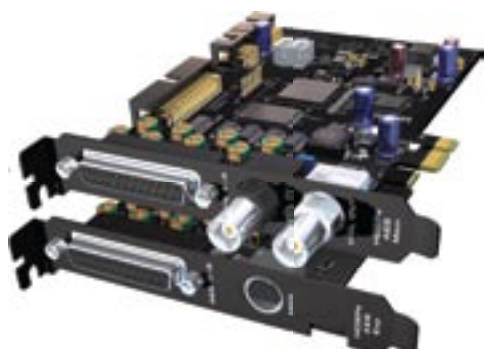
THE REVIEWER

ALISTAIR MCGHEE began audio life in Hi-Fi before joining the BBC as an Audio Engineer. After ten years in radio and TV, he moved to production. When BBC Choice started, he pioneered personal digital production in television. Alistair is now Assistant Editor, BBC Radio Wales, but is allowed out occasionally.



RME supplies comprehensive mixing and routing software that enables the card to perform the function of a sophisticated router, and although the mixer graphics won't win any prizes, the power is all under the hood. The matrix allows any input (mono) to be routed to any (and all) output(s). The mixer is laid out in the fashion of an inline console with all inputs and software outputs available to be mixed through to the outputs. I struggled to get everything onto my 24" monitor, so maybe a two screen set-up would do real justice to the Totalmix concept. The card will also support a plethora of submixes, and the software allows complex views across the mixer layers to present all the information in understandable terms. That's code for, 'pay careful attention otherwise you'll never work out what is going where and why'.

RME offers Asio Dynamic Monitoring, in which if you're running the right software then its mixer will mimic the fader setting of the DAW mixer. Both Sequoia and Samplitude offer this functionality – I'm running Sequoia but I couldn't get it to work. Assume it's my fault; it usually is. Running the RayDAT in double speed mode, you get 16 channels of 92Khz digital and at 192-8 channels.



Oh, And Not Forgetting...

Having spent so much time with the RayDAT, I have virtually no room left to say anything about the AES version. It's also a remarkable card, offering eight stereo AES ins, and eight stereo AES outs, and maintains that channel count all the way up to 192Khz. You need TASCAM format leads to connect it up, and unlike the RayDAT, all you get is the AES.

It installed, updated, and performed faultlessly in my system, it's just that there's so much to RayDAT that I didn't get round to having much AES fun.

Conclusion

A final word about sound quality, in theory, of course, digital cards have no effect on sound quality – merely transporting digits from over there to over here, and back again. However, life is not that simple, and the question of jitter at the very least has an impact on the 'sound' of a digital system. RME makes much of its Steadyclock system, and includes some interesting graphics of the system in operation. I wouldn't worry about the pictures; I found the sound pretty tidy.

To be honest I felt I didn't have enough time to explore all the features and functions of these cards – the power and depth of what they have to offer means this is really just an introduction to what can be achieved. The RayDAT in particular delivers a recording, routing, and mixing system that is quite

staggering in its power and scope.

Somewhere in cyberspace that little bar is still spinning. 

INFORMATION

① HDSPe RayDAT GB£454.78 (exc.VAT)
HDSPe AES GB£596.52 (exc.VAT)

Ⓐ Audio AG, Am Pfanderling 60, 85778
Haimhausen, Germany
Ⓜ www.rme-audio.de
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Ⓐ UK Distributor: Synthax Audio UK Ltd., Unit 61,
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STEPHEN BENNETT finds how the gritty, raw sounds of Mumbai's slums are perfected in the green British country setting of Pinewood; and talks to Glenn Freemantle about how sound traditions and real emotion have helped to create perhaps the biggest award winner of 2009.

Slumdogg Millionaire, the story of a teenager growing up in the slums of Mumbai who becomes a contestant on the Indian version of *Who Wants To Be A Millionaire?* has become one of the surprise hits of the year. *Slumdogg* (as it shall be henceforth called), is based on the novel by Vikas Swarup and is directed by Danny Boyle. Boyle's previous work includes *Trainspotting* and *The Beach*, and if you've ever seen any of his films, you'll know that the innovative use of sound design and music permeate his work. The film has been nominated for numerous awards, and has already scooped several gongs at the 2008 BAFTAs, including Best Music and Best Sound, while the 2009 Oscar wins include Best Sound Mixing, Best Song, Best Musical Score, as well as Best Film, Best Director, Adapted Screenplay, Cinematography, and Film Editing.

our cue to make the film as intense, vibrant, and colourful as we could," says Freemantle. "Danny sets the vibe for the movie, but doesn't bog you down with details."

Commonly in films, the sound design is used to describe and enhance exactly what you see on the screen, but with Boyle's latest project, sound24 took quite a different approach. "*Slumdogg* is 'sound design with emotion,'" explains Freemantle. "To achieve this level of intimacy, he and his team started from a stripped-down dialogue track and then re-built the atmosphere around it. "Doing it this way meant that we could add every bit of atmosphere back in again – but now with complete control over its placement in the soundfield," he says. "We ended up with thousands of little bits of pieces all patched together, and we collected material from everywhere – we even went through the rushes and outtakes to see if there was an interesting shout from someone, or a snippet

slumdogg millionaire

The people behind the sound design and editing of this commercial and critical success are sound24, located at Pinewood Studios, England. Glenn Freemantle, head honcho and Supervising Sound Editor on *Slumdogg*, started in the business at the tender age of sixteen and threaded his way through to his present position via the traditional route – as he explains. "I worked with the late Jim Shields on films such as *Yentil* and *Legend*, but I started as a complete trainee.

These days, people tend to go to college to study film sound, but I think that working your way up from runner is the best way to learn the business." Freemantle actually practices what he preaches, as his current team has been honed in a similar fashion. "Most of the guys have been with me for 13 years or so, and some of them are now top sound designers – such as co-editor Tom Sayers, who was nominated for a BAFTA on *Slumdogg* – but they came to me as trainees and worked through the same route as I did." Central to Freemantle's way of working is the assembly of a team he can trust – including Ben Barker (Effects Editor), Lee Herrick (Dialogue Editor), and Danny Freemantle (Assistant Sound Editor).

"When you're a tightly knit team, it becomes really easy to work, as you're not always trying to get someone to understand your way of thinking," he says. Freemantle has worked with Boyle since *The Beach*, and the ongoing partnership is something he's extremely happy with. "We get on really well and he's a great guy to work with," he enthuses. "We know what he wants, and the type of films he makes. He doesn't tell you exactly what to do – which is brilliant – he wants your input and your creativity and he doesn't lay down any rules." For *Slumdogg*, Boyle was keen to make sure that the intense feelings he'd had when filming in Mumbai made their way into the movie. "This was

with an unusual doppler'd car horn. We went to this place in Brighton that specialises in Indian cars and recorded all of those, while Gillian Dodders (supervising Dialogue Editor) went out to Mumbai and spent several days recording atmos and crowd." Freemantle likens the construction on *Slumdogg* to a sound collage, which gave the team unprecedented control to position the atmos and effects around the dialogue in an attempt to recreate the noise and madness of the Mumbai slums. Location recording was performed in India by Resul Pookutty, and Freemantle's technique of separating out the dialogue early on made sure that the ADR, also recorded in India, was kept to a minimum – which in turn helped enormously when matching any ADR to the original dialogue.

"There were a lot of challenging and noisy locations in this film, and Gillian Dodders did a brilliant job sorting out all the best microphone angles for each take and removing any unwanted noises from the tracks," says Ian Tapp, Sound Re-recording Mixer. "This enabled us to get the maximum amount of original production dialogue into the film, thus preserving the energy and spontaneity of the actors' performances." As is common in post these days, Digidesign's Pro Tools played a major role in the sound design, and being able to keep everything 'in the box' was a crucial factor in enabling the film's complex audio design. Richard Pryke premixed the effects in Pinewood's Pressburger Theatre using the Euphonix System 5's Eucon DAW control software to write automation directly into the Pro Tools sessions. "This enabled us to keep the whole FX tracklay completely live at the Final Mix," says Tapp. "It also meant we could cut all the sounds and automation data together in one operation when tracks had to be re-conformed for recuts."

"While many of the earlier films I worked on had great sound design, there's nowhere near the kind of detail you get nowadays," says Freemantle. "The technology is great,



The Sound24 team, based at Pinewood: (standing L-R) Tom Sayers, Niv Adiri, Ben Barker, Lee Herrick (sat L-R) Gillian Dodders, Glenn Freemantle.


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but it does create more work as some people think that changing things is just a matter of pressing a button – but in reality that one change usually affects thousands of other things!” The old methodology of separate editing and mixing is also being challenged, with the advent of new technology – as Freemantle explains. “Both processes are merging into one. This can only be better for the film, as you’re refining things as you go along – Danny can come down and check it out as it progresses. On *Sunshine* (Boyle’s epic space saga), we had to invent every single sound, but when we came to the final mix, we were just blending the elements which Danny had heard as we worked on the film. It’s easier to get the levels right over the film’s whole duration – you’re not just trying to muck around with individual elements.” Freemantle believes that this way of working serves the film better, allowing the sound team to concentrate more on the rhythm and the emotion. “Then, it’s no longer just about which sound and which reel – it’s about telling a story over two hours – and that’s what draws you into a film.”

As anyone who has heard the soundtrack for Boyle’s *Trainspotting* will attest, the Director is very aware of the importance of a film’s musical score, and for *Slumdog*, he called on the services of A.R. Rahman. As is so often the case, the music arrived just in the nick of time – as Niv Adiri, Sound Effects and Music Editor, explains. “It came in as we were mixing – we only had one cue on the first day of the mix, so we were quite concerned as the music was an integral part of the sound design of the film – it was quite an adventure! We had to do a lot of music editing as AR hadn’t been writing to the final cut, so he sent us great big slabs of music which we then cut to the film. Having the stems available separately (the music was mixed at Out of Eden by Andy Richards on his Fairlight system) enabled us to easily break it down.” sound24 has two sound design and two effects editing rooms, both of which are networked making it easier to share libraries and sounds. Audio is handled by Apple G5 computers running Pro Tools 7.3.1 on HD 2 and 3 systems in 5.1 configurations, while monitoring is handled by Dynaudio speakers. Like most professionals, Adiri prefers not to draw blood at the cutting edge of technology. “Pro Tools 7.3.1 was the most stable version available at the time,” he says. “I used to work at Gearbox Sound and Vision, so I was supporting Pro Tools for many years. I never use the latest versions, but usually wait at least six months to make sure the systems are stable.” Soundminer and the Pro Tools Workspace were both called upon to ensure that the thousands of audio files were correctly catalogued and easily accessible. “The library kept being updated, mainly from field recording but also from libraries, so each sound file needed to be named properly, and cut and catalogued to make it easy to find via the search engines,” says Adiri.

The team made extensive use of plug-ins, such as the Waves Restoration bundle, GRM tools, Native Instruments’ Kontakt, Motu’s Mach5, and Audioease’s Altiverb. “We used Altiverb a lot – it’s our main reverb,” says Adiri. “Hugo Adams records his own impulse files for the software and we print the effect so it becomes part of the sound – we don’t tend to run these live right to the end.”

Freemantle is, however, aware of the pitfalls of using such tools in an attempt to make the audio too pristine. “I said to Danny before we started that the most important thing to get is the dialogue. If you want to keep it real and gritty, we need to keep as much of the original recording as we can. You have to be careful when you are using these types of tools because you want to keep the integrity and rawness of the voice – part of the charm of this film is that you can buy into it that it’s real.” Tapp concurs, “I paid particular attention to this whilst premixing – trying to encourage the warmth of the dialogue, and avoiding any cleanup and filtering that was destructive to the dialogue quality.”

For the final mix, Pinewood’s Powell Theatre was utilised, along with no fewer than five Pro Tools systems. “It looked a bit like NASA,” laughs Freemantle. “As a general rule we try and keep it simple as it can get very messy on a big film,” adds Adiri. “If we can do it with less, we do. We split the tracks for convenience because things are so busy and you can’t really keep everything on one system. The atmosphere had so much detail that we needed to separate these out – they were almost more like spots, not just the usual long files of evolving sounds.” Audio from the Pro Tools sessions was routed through a Euphonix System 5 console, and the desk’s EQ was called upon to add sparkle to the final mix.

The whole process took around five weeks, though Freemantle admits that they had a lot of time “for free by the guys at Pinewood”. Once the mix was complete, you’d assume that the crew at sound24 could put their feet up and relax for a while – but you’d assume wrong. “It was all shot at 25 frames per second, so we had to make a 24 version as well,” says Freemantle. “We mixed the whole thing at 25fps all the way through, so cinemas equipped with digital projectors and DVD got a version at 25fps, while more traditional film cinema required 24 fps. So at the back end we had to do a pitch change using the Dolby 585 system. Though Boyle has long been a pioneer of digital cinema – *28 Days Later* was famously captured on handheld camcorders – *Slumdog* was shot on film. “Danny wanted to shoot at 25fps because of the extensive use of lights and the TV monitors. We had to deliver to Fox and Pathé at 24fps, but Danny wanted the HD master to be at 25. I was worried about artefacts – we’d had a similar problem with *28 Days Later* – but for that one we kept just made a 24 frame master as the pitching systems weren’t as good then. You don’t need these problems when you’re making a film, I can tell you!”

Chris Tarrant was unavailable for comment. **AM**



Ian Tapp, Richard Pryke, and Resul Pookutty with their Oscar for Achievement In Sound Mixing (Slum Dog Millionaire).

Glenn Freemantle – Supervising Sound Editor / Sound designer
Ian Tapp – Sound Re-Recording Mixer
Richard Pryke – Sound Re-Recording Mixer
Niv Adiri – Sound Effects / Music Editor
Tom Sayers – Co-Supervising Sound Editor/Sound Designer
Hugo Adams – Foley Editor
Resul Pookutty – ADR Mixer/Sound Mixer
Gillian Dodders – Supervising Dialogue Editor
Ben Barker – Effects Editor
Lee Herrick – Dialogue Editor
Steve Haynes – ADR Recordist
Adam Scrivener – Assistant Sound Re-Recording Mixer
Danny Freemantle – Assistant Sound Editor
A.R. Rahman – Music Producer
Andy Richards – Original Score Mixer

One of the Euphonix System 5s at Pinewood – the host for Slumdog post.



Oscar-winning Sound Designer and Supervising Sound Editor Richard King talks to STROTHER BULLINS about his work on the monumental 2008 action film, *The Dark Knight*.

Directed by Christopher Nolan, *The Dark Knight* is a record-setting and award-garnering action film like no other in history. Despite the unique appeal of its star character Batman – the alluringly mysterious superhero that possesses no true ‘superpowers’ to speak of – *The Dark Knight* is a film with an almost supernaturally successful force behind it. It is only the fourth film in history to gross more than \$1 billion, as its darkly enigmatic appeal burgeoned in cyberspace and spread like an audio-visual virus worldwide (in a notably positive way, of course). Further, its greatness was anchored in a firm foundation; casting was superb and

In The Beginning

King's work on *The Dark Knight* started rather typically. “I first read a script, and then met with the Picture Editor before he was to go to the UK for a shoot,” he explains from his digs at Warner Bros Studios in Southern California. “There, he and I put our heads together and we came up with a list of sounds that we thought he might need for the picture editing process. [Director] Chris Nolan likes to cut with sound, having it as an integral part of the process and a part of his vision as the picture progresses. We came

THE DARK KNIGHT



the script (co-written by Nolan) was compelling, while its aesthetics complemented both the tastes of modern times and the timeless style of the established Batman legend.

In other words, it was no surprise that Oscar, among other award-bearing characters, soon came calling for *The Dark Knight*. The Academy of Motion Picture Arts and Sciences recently deemed *The Dark Knight* worthy of no less than eight nominations and a subsequent Academy Award for Achievement in Sound Editing for the affable Richard King. Here, King – the Sound Designer and Supervising Sound Editor for *The Dark Knight* – details his philosophy of feature film sound craft and, albeit indirectly, how his subtle approach ultimately directed an entire industry's attention to his sonic efforts in this significant 2008 feature film.

up with this long list, and I spent about a month or so creating these sounds before I had seen anything except some sketches and storyboards.”

The first bit of actual footage witnessed by King was *The Dark Knight*'s prologue sequence, the initial bank heist. “This was released in IMAX,” explains King of the segment. “It was essentially a trailer at the head of *I Am Legend*. We went to the UK for the temp mix of that sequence with Chris. I came back here and worked on it some more, and then the prologue was released. By that time, I had seen some images of the Batpod, the Batmobile, and tiny bits from the film so I could create a palette of sounds to use.”

After this introduction to the look and feel of the film, King was off and running. Building on his take of the script, those initial images King had seen led him to develop ideas into sounds, significantly supporting the still-unseen visuals of *The Dark Knight*.

Building The Palette

While each film requires its own unique sonic approach, King is always “on the lookout for interesting sounds,” he readily explains. “I carry a little digital recorder around with me just in case something interesting happens that I can record. In reading through any given script, I make lists of things that I think can be useful. They're kind of more general sounds; I think there may be a way to make certain weapons sound, and I will collect sounds for that. Then the bulk of the recording takes place after I've seen the movie and am really able to be specific about what I record.”



King offers the first main sequence of *The Dark Knight* – a scene in which Batman encounters drug dealers in a parking garage – as an instance in which he was able to prepare appropriate audio before he had seen any associated image from the film. “The script mentioned that they had big dogs, like Rottweilers,” King begins. “I thought it would be interesting to record dogs in a parking garage, getting a natural surround reverb, and I was able to do that without seeing the film. It’s all about collecting enough material so you can ultimately sculpt what you need to make out of it.” This sonic intuition also came in handy while gathering gun sounds for *The Dark Knight*. “In the same way, we did a gun session rather early,” tells King. “Unlike some movies, where you want to use the type of gun that is actually on film, we really just wanted big and beefy gun sounds. We went to an armory and selected what we thought would have the most powerful sounds, like 50-caliber handguns, Uzis, and machine guns – 10 to 12 different choices that represented a variety of big guns.”

Collecting sounds for the vehicles of *The Dark Knight* was quite a bit different, as the sounds were closely matched to what was happening on screen. “When we got to the vehicles, we had to do that very precisely to picture,” offers King. “You have to choreograph what you want the vehicles to be doing at any given moment, hitting certain cuts and shots really hard. Cutting sounds for vehicles needs to be much more tailored to the picture. We made a very careful shot list from the picture, doing the vehicles late in the process. We had initially used temp-effects – things that I had in my library from other movies before that. Once I had the time to do the vehicles for real, we really studied the picture, made extensive notes, and did half-a-dozen takes to make sure we had the building blocks to do the chase sequences.”

A Mad Scramble, A Creative Frenzy

King admits that the art of sound design/edit isn’t at all based on a linear method – and he likes it that way. “All the way through, I would have ideas about what I wanted to use, and then I’d record it or find a way to get it,” he offers. “It’s a mad scramble. You never want to feel that you’re coasting along, checking things off the list. It’s much more of a creative frenzy. Yes, you have to be organized about some of it; the gun and vehicle shoots are complicated and expensive to set up, so they have to be pretty well thought out. Yet the vast majority of it is, ‘I have an idea! How do we get it?’ It’s much less organized than the shooting of a film is. We know how to work fast, have a lot of portable gear, and can record a lot of stuff in my studio. It’s never like you’re just coasting along, and this pace and approach actually makes it all fun.”

This creative free-for-all was a major attraction for King to the field of sound-for-film in the first place. “It’s ‘the sky is the limit’ scenario, definitely – that’s what I loved about sound initially,” he explains. “In picture editing, you always think about how well the scene was covered, and how the performances are; you are limited by the material that you are given. With sound, you can always do a fantastic job, even on a bad movie; you’re only limited by time,

energy, and imagination. With something like *The Dark Knight*, you’re starting with a great movie, fantastic performances, and exciting sequences. That pushes you further because you want to live up to the material. I definitely have a particular point of view but I try not to let that limit me, and I use that hackneyed phrase ‘think outside the box,’ opening my mind up a little bit.

“What am I not thinking of here?” Yet, you don’t want the sound to be the star, so it’s really about trying to find sounds that will add something yet won’t be a distraction in itself.”

On Inspiration, Technology, And Work

For King, as with most intuitive and talented audio-based artists, inspiration still comes from the mind, not from the gear. While technological innovation has helped ease the productive process, it still doesn’t provide the muse.

“In the old days, I would’ve still gone out and got the sound, but would’ve instead grabbed a Nagra and thread a roll of tape on it,” explains King of the inspired moment. “It was all a lot more cumbersome, but there wasn’t an alternative. I don’t think technology has changed the way I look at the work, but it has given us so many more tools to work with that you can practically accomplish anything that gets into your head. We seem to have accomplished these things before the advent of the newest technology. Using a musical analogy, look at what the Beatles did on *Sgt. Pepper’s Lonely Hearts Club Band*, and the amazing things done in the 1960s with, by today’s standards, really crude equipment. I don’t think they would’ve done a better job if they’d had Pro Tools, digital recorders, and so on. If anything, our newest technology just gives you in-hand tools to do what’s already in your imagination. Again, the true inspiration comes from your imagination rather than from the technology; it comes back to people. But today, when you get the idea, you can try five different versions of it in a blink of an eye, which you couldn’t do before.

“Personally speaking, I’m always looking for new stuff, but it’s usually because I have a sound in my head, and I can’t make it with the tools that I have. So, I go searching for some other tool that I may only use once; it’s some piece of software, some box, or whatever. But rather than bring the attention to the sound, I really just want to make soundtracks that contribute to the story and the characters. I’m always looking for new ways to accomplish that.”



Sound Designer/Supervising Sound Editor
Richard King in his sound design suite at
Warner Bros Studios.



Richard King collects his Academy Award
for *The Dark Knight*.

Richard King – Sound Designer/
Supervising Sound Editor
Michael Babcock, Hamilton Sterling,
& Michael W. Mitchell –
Sound Effects Editors
Christopher Flick –
Supervising Foley Editor
Lora Hirschberg & Gary Rizzo –
Sound Re-recording Mixers
Ed Novick – Sound Mixer
Hugo Weng ¶ Michael Magill –
Dialogue Editors
John P. Fasal ¶ Eric Potter – Sound
Effects Recordists
Linda Folk – ADR Supervisor
Andrew Bock & Linda Yeaney –
Assistants



STEINBERG CUBASE 5

Advanced Music Production System

Is the new Cubase a major step ahead for this popular sequencer? RICHARD WENTK investigates.

Cubase 4.5 arrived just over six months ago, so it was a surprise to see Cubase 5 being announced at this year's NAMM show. It was even more of a surprise to find it shipping just a couple of weeks later – unusually speedy compared to the typical announce-release cycle. Previous updates have concentrated on new technology, but this release adds a box full of new features. If there's a theme, it's a move beyond the strict tape-based metaphor to a looser approach to music and audio. Considering that multi-tracking is almost half a century old now, and that computers are good at processing information in creative ways, it's been disappointing to some to see that most DAWs still follow the old familiar tape-based model. Even though the linearity may be familiar, both music production and post could benefit from smarter computer assistance. Automated robo-post seems unlikely, but a hint of digital jamming is starting to creep in, promising interesting things for the future.

Control Orientated

With pad controllers becoming so popular, it's no surprise to find that Steinberg has added a virtual MPC sample player, with sixteen virtual pads, called Groove Agent. There's no equivalent hardware controller from Steinberg – at least not yet – but you can use any of the rash of pad players that have appeared over the last few years to trigger samples. Clicking with a mouse works too, but it's not quite as hands-on. There's quick access to volume, pitch, filtering, and other essentials, for the sixteen pads that are arranged in groups of eight for a total of 64 samples per patch. Pads don't have to be mapped to key pitches in sequential order – any pad can play any pitch. Although this seems like a small addition, it's very much easier to set up a collection of samples in Groove Agent than it is in a standard keymapped sampler, making live triggering of sound effects much more productive.

You can also use it in the obvious way for drum loop

programming – a new MIDI plug-in called Beat Designer is a very rhythm friendly way to program drum loops using the pad layouts, and includes very accessible swing and accent features that make it easy to create lively loops.

For more creative loop processing, a new instrument called LoopMash adds programmed and random loop cut-ups. Although this was designed for rhythm processing, you can coax it into working with other kinds of samples for creative sound design – speech and vocals can be particularly interesting, and creative abuse of any pre-recorded material is fair game.

Vocals can also be processed with VariAudio. This doesn't mean varispeed – that's been available in Cubase for a while now with 'musical mode' for loops and tracks. VariAudio is more of an autotune feature.

It's limited to vocals really, and adds hands-on re-tuning of vocal parts. A single click analyses your vocal line. Pitched note blocks appear, and you can drag these up and down for quantisation and correction. Some basic reworking of vibrato and expression curves is also possible, but it wasn't quite as fluent as it can be in, say, AutoTune or Melodyne.

But audio quality is good – you can move

the audio up or down a fifth or so without it sounding too chipmunk'ish or robotic.

There's also a MIDI extraction feature, but trying to copy the pitch of some vocal lines to a VST monosynth created more misses than hits. You could, with time on your side, convert the output to something closer to the original. It's certainly in the proverbial ball park, but it's also not a one-click process.

Pitch-Meister

Pitch correction is also available in the new PitchCorrect plug-in. This is a real time effect with programmable speed and tolerance, and also includes pitch shifting, scale fitting, and formant alteration. The best of these is the formant shift, which can transform

"If there's a theme, it's a move beyond the strict tape-based metaphor to a looser approach to music and audio."

THE REVIEWER

RICHARD WENTK is the owner of Skydancer Media, a digital production company providing sound, image, design, and consultancy services to various clients in London and the West Country.

ROCK SOLID-STATE



Compact flash is swiftly becoming the new industry standard for solid state recording. A quick look at the benefits of Compact flash can tell you why. Since there are no moving parts this makes it extremely reliable. It's a universal standard which allows for quick transfer to and from PC/Mac. With its capacity it allows for higher than CD quality recordings and far greater record times. Its compact and robust meaning your files are on a secure medium. Since it is read/write capable this allows for editing after a recording.



The SSR1 is a simple to use high quality solid state recorder. With Balanced In/Out and Digital In/Out this makes it ideal for studio, live & mobile installations. Both the SSR1 & SSCDR1 Offer all of the same editing & Auto Cue/Ready features of our Minidisk machines plus higher quality (broadcast standard) 24 bit 48k recording. The SSR1 is a space saving 1U with both parallel and RS232 connections for remote control and a Keyboard connection for titling. This makes it an ideal unit for all your recording and playback needs.



The SSCDR1 is the only available 1U standalone professional CD recorder by TASCAM. As well as being space saving the unit gives the reliability of solid state and the convenience of Compact Disc. The SSCDR1 allows you to record to Compact flash then transfer to CD or vice versa. Any CD can be ripped onto the compact flash card in MP3 or Wav format. This makes the SSCDR1 great for archiving CD's into Wav or MP3 format. Standard Mp3's can be transferred onto a compact flash card then setup as a playlist for play out purposes or burning onto CD.



The HDR1 offers direct to compact flash or USB recording. Both line level and Phantom powered Microphones can be recorded without the need for external pre amps. The HDR1 has a ducking function to allow for announcements to be made while music is being played back by the unit. The Ethernet port allows remote operation of all functions as well as being able to retrieve any files or send files to the unit using standard File Transfer Protocol.

***For further information call
Gary on 01923 438845 /
e mail info@tascam.co.uk
or visit www.tascam.co.uk***

The RC SS20 is the perfect addition to the SSR1, SSCDR1 & HDR1. On the SS models this remote enables the use of the flash start feature which allows for up to 20 tracks to be triggered instantly. This makes the remote ideal for jingle play out or instant play of any track in a playlist. When connected to a HDR1 up to 16 tracks can be triggered all from a wired remote that can be up to 10 meters away!

TASCAM

TEAC PROFESSIONAL





Groove Agent – 64 pads with sounds on. It looks like a toy, but try working as fast in any other virtual sampler.



LoopMash – we're not absolutely certain what's happening here, but that might be a good thing.



Beat It with the new BeatDesigner drum pattern editor – one of the best of its kind in any sequencer.

squeaky voices into low and sexy breathy ones. Sibilants are processed separately – or more accurately, they're not processed at all – and with a ± 60 semitone transposition range it's easy to morph sung vocals into monstrous deep breathing – expect to hear this effect in a cinema near you soon. I found pitch correction less transparent. You can snap the pitch to major or minor scales, or play them in over MIDI in real time, but I needed to dial up the speed and dial down the tolerance, where it's easy get an instant but slightly harsh-sounding robo-Cher effect.

Aside from the new rhythm plug-ins, the only major new effects addition is the REVerence sampling reverb. With a glossy panel that not only includes a sample plot but also location shots of the sources, this is a versatile and nice sounding effect. Steinberg isn't saying if the technology is based on Yamaha's hardware reverbs, but the sound is smooth, with the usual sampled advantage that rooms and halls sound like real rooms and real halls, and not poor imitations. The parameter set isn't huge, but then you don't necessarily want it to be – reverbs with tens of parameters can easily turn into time vampires. In REVerence, time scaling, size, and ER mix cover all of the basics, and there's also a three band EQ.

Work-Mate

Nuendo users will be pleased to see that Cubase has been given a version of Nuendo's latest automation set. At the time of the review an exotic bug that caused 'fill to end' to fail came to light, but this will be fixed in an imminent update. A new panel offers quick access to the most commonly accessed parameters, and there are also new Suspend features that turn off reading and writing if you want quick manual control.

In the 'and the rest' section, though still significant, there's a DVD's-worth of free samples and instruments, and a 16-bit version of Steinberg's Halion Orchestra collection. These work to best effect with the new articulation and expression

features. If you're those who can write orchestral scores successfully using a score editor, the articulation options will make your life very much more productive and pleasant. But expression can also be added using the piano roll and drum editors – you can mark a note bar with a tremolo marking and it will auto-repeat for you. This is clever technology, but it takes some practice and imagination to get the most from it. It's not reserved for orchestral writing – the free instruments are designed with these expression features in mind, and you can add the effect to basses, guitars, brass, and strings, which are available.

Elsewhere there's some minor technical tidying up of OS support. Under Vista 64 you can use an entire terabyte of memory, if you happen to have it to hand. It's more likely that your PC will max out at 32GB, which is still ample for a handful of big sample libraries, and more plug-ins than you can shake a cliché at. Vista users can also use WASAPI drivers for lower latency. Mac users have been de-Carbonised and are now Cocoa-ised. In English this means support for older versions of Mac OS X is dead – not that you're likely to be using them. According to Steinberg, rebuilding the graphics in the Mac version using Apple's Cocoa framework is an important step toward supporting a future version of 64-bit OS X, but Cubase will require further development to reach full compatibility with 64-bit OS X.

Perhaps most useful of all is the new batch export feature. This can split a project for archiving or transfer to another DAW, saving individual tracks to separate files. It also works as a multi-tracked bounce down and freeze. You can archive an entire pool, as before, but this freeze option includes effects and track settings, making it closer to a generic file-based mastertape in an accessible format which should be easy to transfer to a different DAW. Deciding what should or shouldn't be frozen is always a challenge – usually, you'll want both raw audio, and audio with effects for maximum remix potential later, but there's no

quick way to save both at once, and some manual setting up is required first. But it's better than 'mixing down' each track one by one, which used to be the only option.

Previous first releases of Cubase have been criticised for poor reliability. Cubase 5 is much more robust than Cubase 4 was, but even so, a built-in rescue feature traps crashes. Instead of falling over and dying, Cubase prints an error message and suggests you save your work and restart. You can often carry on with a session regardless, but when you can't, a saved backup means you're unlikely to lose work. There's also auto-backup, which saves a working copy in the background.

Ergonomically, a few quirks remain. I still couldn't, for example, swap out a VSTi on a MIDI track and replace it with another – I had to reassign both.

Window management has been a bigger issue in the past, and thought has gone into it for this update; there's a 'stay on top' feature for plug-ins, and mixer channel views no longer proliferate automatically unless you 'Alt'-click them. You can design your own workspaces and switch between them, but plug-in sprawl can still be a problem. A clever switching system, perhaps with a grouped window bar or icons along the bottom of the working area, would be a leap forward.

Conclusion

Cubase 5 has some great new features and it continues to be, in my opinion, the best of all of the PC sequencer/workstations – arguably, away from the Digi/Avid stable. On the Mac, the competition is powerful and offers impressive value, so the choice is less straightforward. Even so, this update has plenty to interest existing owners of Cubase and Nuendo – there's more of a gap than ever between the two, but smaller studios and one-man bands can easily do basic spotting and sound design in Cubase. And for newcomers, Cubase remains a desirable choice. **AM**

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INFORMATION

- ❗ Cubase 5 GB£499.00 (inc.VAT)
- Cubase 5 Upgrade GB£166.00 (inc.VAT)
- Cubase 5 Studio GB£332.00 (inc.VAT)
- Cubase 5 Studio Upgrade GB£107.00 (inc.VAT)

- Ⓐ Steinberg Media Technologies, Neuer Hoeltigbaum 22-32, 22143 Hamburg, Germany
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DIGIDESIGN PRO TOOLS 8

Audio Production Software

With the debut of PT8, our industry's ubiquitous DAW is now equally adept at processing MIDI or audio.

Digidesign's Pro Tools 8 was previewed at last Autumn's AES show to an awe-inspired crowd. The application is the next evolutionary step of the industry-standard music creation and audio production software. This new version has been completely updated with a new user interface, over 70 plug-ins and virtual instruments, fully integrated MIDI and score editors, and an expanded array of editing features. The MIDI upgrades are so significant that Pro Tools can no longer be considered a DAW with MIDI functionality, but rather a platform equally adept at processing MIDI and audio. The Pro Tools 8 package (which is available in HD, LE, and M-Powered versions) provides everything users need to create, compose, score, record, mix, produce, and broadcast within a single application.

Features

As most of you are at least somewhat Pro Tools savvy, I am primarily going to focus on PT8's new features. The Digidesign website is packed full of general Pro Tools information including hardware and software options, system requirements, and tons of downloadable manuals and streamable demonstration videos. Unless stated otherwise, all references to Pro Tools 8 refer to all three versions of the software.

Digidesign has introduced the Quick Start window and has fully implemented template support. Several templates are included and offer useful starting points for a number of different situations. This will be exceptionally useful to beginners who are still trying to grasp the mindset of Pro Tools as a whole.

PT8 boasts a stylish new GUI that includes redesigned icons and a complete visual overhaul. Most of the familiar Pro Tools functionality is still in place, but with several subtle enhancements and easier access to many editing options that were previously only found in the Preferences.

The Edit and Mix windows have been polished and are easier to navigate. Both windows retain their basic layouts, but the Edit window features some major improvements including a Universe View at the top of the edit window (which replaces the older Universe window which has been dumped) and several new rulers such as Chords.

In addition to the omnipresent grid values, counters, and core edit controls, the Zoom, Transport, MIDI, and Synchronisation controls can now be added to the Edit window's toolbar and placed in the user's preferred sequence. While I've never felt too strapped for monitor space in my multi-monitor studio setup, having the extra controls on my toolbar is particularly helpful when running LE on my MacBook Pro.

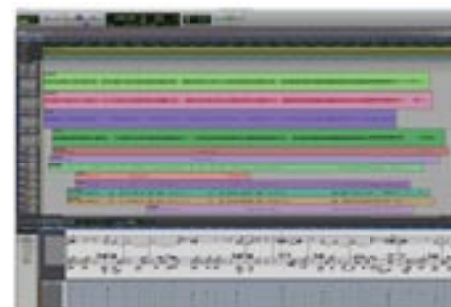
Back in Pro Tools 7.3, Digidesign added the ability in both the Edit and Mix windows to infuse the track's background with its selected colour by using a quick key command (though it was somewhat buggy at the time). PT8 has added control of this feature (which now operates perfectly) in the colour palette window by adding saturation and brightness sliders to adjust the amount of colour that is applied to the background.

Several small touches have greatly improved the program. There is now a Timeline Insertion/Play Start Marker Follows Playback button in the Edit window, so this function can be changed without opening the operation preferences. In addition to the toolbar's zoom controls, there are now horizontal and vertical zoom buttons in the lower-right corner of the Edit window. Automatic delay compensation is now applied to sends as well as inserts, making it possible to record with delay compensation enabled. The Mix window's horizontal pan controls have been replaced with circular controls and each channel now supports up to 10 inserts instead of five.

"The MIDI upgrades are so significant that Pro Tools can no longer be considered a DAW with MIDI functionality, but rather a platform equally adept at processing MIDI and audio."

THE REVIEWER

RUSS LONG, a Nashville-based producer/engineer, owns The Carport recording studio and is a regular contributor to *Pro Audio Review*. www.russlong.ws



Thankfully, users are no longer bound to viewing and editing a single type of data on any given track, as the Show/Hide Automation Lane button found on each track in the Edit window makes it possible to simultaneously view and work with unlimited automation parameters. I've been begging for this feature since seeing it in Nuendo over half a decade ago.

Composing Easiness

Much like Logic's Quick Swipe Comping feature, the new track compositing workflow provides a quick, easy, and accurate way to create a composite performance. By using the Playlists view for an audio track, the best parts from a track's alternate playlists can be selected and copied to the main playlist allowing the 'perfect take' to be created from multiple alternate playlists. Alternate playlists are displayed directly below the track in lanes, and can be edited in the Playlist view just like the main playlist in the Waveform view. As with tracks, playlist lanes can be re-ordered by simply clicking the name of the alternate playlist and then dragging it to the desired location. A region can be rated on a scale of 1-5, which is useful for identifying preferred takes when compiling playlists. Playlist lanes can be viewed or hidden based on the ratings of regions in the playlist.

SATELLITE LAUNCH

While the main thrusts of Pro Tools 8 have been the new MIDI features and other creation aspects, a few post production needs have been catered for recently with the introduction of Video Satellite and Satellite Link software options – both using the network connections to add remote system facilities.

Satellite Link enables control and synchronisation of up to five Pro Tools|HD systems from a single transport, with near-sample accurate lock achieved via SYNC HD or SYNC I/O hardware. Any linked system can control transport.

Video Satellite is another software option that allows Pro Tools HD users to open and play Avid HD or SD, or QuickTime HD material stored on a networked Windows machine running Avid Media Composer. Sync is maintained, without the need for complex transfers and so on. There's also a Video Satellite LE version which uses a peripheral Pro Tools LE Mbox 2 Micro system for QuickTime HD or SD video, plus a connected Avid peripheral option for Avid SD video.

Pro Tools 8 (HD only) now maintains a plug-in and mixer cache for allocated DSP when closing and opening sessions. This doesn't change the time it takes to open the first session after launching Pro Tools, but all subsequent sessions open and close much faster.

Noted

In addition to Pro Tools Elastic Audio time compression and expansion capabilities, the new Elastic Pitch allows whole audio regions to be shifted in semitones and cents in the range of +/- 2 octaves. Pitch transposition can be applied to the

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- Elastic Audio regions by using either the Transpose window or the Elastic Properties window.

PT8 includes an impressive collection of music creation and sound-processing plug-ins, including five new virtual instruments (Boom, DB-33, Mini Grand, Vacuum, Xpand!2), 20 new effects, and Eleven Free, which is Digi's fairly limited, but exceptional sounding amplifier emulator. Also included are M-Audio's Torq LE DJ software, and an impressive 8GB collection of loops from Big Fish Audio.

MIDI

Significant as the changes in the user interface and improved audio performance are, they don't overshadow the improvements to the MIDI Editor window. The MIDI Editor windows can show MIDI data and automation data for auxiliary input, instrument, and MIDI tracks and, like the Edit window, it provides the ability to show additional lanes, allowing MIDI controllers, velocity, and even automation data to be simultaneously viewed and edited. This window redefines PT8 sequencing, putting it on the level of what is offered by current versions of Logic and Digital Performer. While the ability to edit MIDI has been a part of Pro Tools since Version 5 nearly a decade ago, PT8 is the first time that MIDI data can be graphically edited beyond the restrictions of a track lane in the Edit window. PT8 not only allows the MIDI Editor to be opened in a window, but it can also

VIRTUAL INSTRUMENTS

The Pro Tools 8 virtual instruments are not scaled down versions of separately packaged products, but rather full blown instruments that have been designed and built ground-up by Digidesign's AIR (Advanced Instrument Research) group. Boom, a retro drum machine, features a drum machine-style pattern sequencer and offers ten different electronic-oriented kits, each with extensive sound shaping capability. DB-33 is Digi's Hammond B3 variation. It includes rotary speaker cabinet and tube preamp emulation as well as drawbars, variable percussion, and several tone wheel models. It doesn't have as many bells and whistles as Native Instruments' B4 or Logic's EVB3, but it sounds every bit as good, and the rotary speaker emulation is amazing. The Cabinet controls allow the Tube Pre-Amp settings, the microphone placement, and the rotation speed to be tweaked, but best of all, separate inputs with individual level controls allow the cabinet to be used as a plug-in on an audio track. This has quickly become one of my favourite new plug-ins as it sounds fantastic on electric guitars and vocals. Mini Grand is an acoustic grand piano that includes seven selectable piano models, with eight velocity layers per key and built-in reverb. Vacuum is a unique monophonic virtual analogue synth that employs something Digi has defined as Vacuum Tube Synthesis. Its dirty, distressed look provides huge basses and smooth leads matched to its vintage-slanted sound and packed with tons of sonic character. Lastly, Xpand!2 is another virtual synthesiser plug-in that offers a ton of cool sounds. It includes 1.5GB of content; everything from keyboards to guitars, basses, drums, orchestral instruments, and rhythmic loops. Each of the five instruments is extremely high quality, doing a superb job of adding value to the PT8 package.

be incorporated into the Edit window for users who prefer to edit their MIDI and audio in the same window. Now, in addition to toggling between the Edit and Mix windows by pressing [apple] [=], you also have the option of opening the MIDI Editor window either by pressing [ctrl] [=] or by double-



clicking a MIDI region. The PT8 MIDI Editor window is very much like the familiar piano-roll style editor, so users familiar with this type of editing should quickly feel right at home.

The PT8 notation function makes use of many of Sibelius' features including the use of the Opus music fonts, which makes the notation quality very high. When working in the MIDI Editor, enabling the Notation Display button on the editor's toolbar allows the notes to be edited as notation. This provides a linear view of the score with the notes running from left to right, and keeping any rulers or lanes being displayed in line with the notation. The score can be printed from within Pro Tools, or the session can be exported as a Sibelius (.sib) file for further finessing in Sibelius.

In Use

Pro Tools 8 installation, on both my studio and mobile rigs, was a breeze, and after six weeks of use, I've found the new GUI to be a welcome addition. It is pleasing to look at and far less fatiguing at the end of a long day. Being such a substantial visual upgrade, I was surprised at how quickly I adapted to the new look and feel of my primary studio tool. The new software did seem to demand more from the CPU than previously, especially with ReWire on the go. Digidesign in the US comments that the user interface is (inevitably) a little more power-hungry, but that plug-in instance numbers and so on are unaffected.



Manufacturers of Audio & Video Broadcast Equipment



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Another PT8 feature that I've found to be extremely useful is the ability to open a session with all of the plug-ins deactivated, done by holding the shift key before selecting and opening the desired session. Since plug-in intensive sessions often take a long time to open, this lets you quickly open a session for immediate visual inspection and audio playback (without plug-ins). Even without this feature, the speed of opening and closing sessions is drastically improved with the implementation of plug-in caching.

A Little Experimentation

I experimented with some long recordings and was pleased to find that file sizes up to 3.4GB (as opposed to the previous 2GB limit) are now supported, providing longer, single file recordings. I was happy to notice that gone are the days of having to stop playback every time you want to make a change to the mix configuration. Since 7.4 though, Pro Tools has allowed most common changes, including adding or removing tracks, copying inserts and sends, changing I/O routing, and re-ordering tracks, to be made on the fly.

"PT8 is the first time that MIDI data can be graphically edited beyond the restrictions of a track lane in the Edit window"



I love the selection of new effect plug-ins. Each one is usable in the real world, and surprisingly there is not a bad apple in the bunch. My favourites include Vintage Filter, Spring Reverb, FuzzWah, Chorus, and MultiChorus.

The additional inserts on the track are nice, but I did feel that there should be a fast way to consolidate a track with plug-ins and any inserted outboard, without additional routing, disabling of the automation, and so on – the equivalent of a freeze function. Of course, with outboard connected the process would have to be real time, but that's an inevitable consequence of acting outside the box.

As minor as it seems, one of my favorite features of PT8 is the translucent regions that allow the grid to be viewed through the region in the Edit window. It is a great feature, but the regions lose

their translucence when working in Elastic Time's Analysis and Warp mode – arguably when they are needed the most. Digidesign did comment that maintaining the translucence had been tried and rejected as the gridlines clashed too much with the Analysis and Warp markers, making for a frustrating Warp experience.

Conclusion

Digidesign has clearly set a new standard with Pro Tools' sleek new look, enhanced functionality, and creative power. Pro Tools 8 is easier to use than ever, faster to work with, and offers more customisability than ever before.

Between the HD, LE, and M-Powered versions, the environment easily adapts to the creative and financial needs of virtually anyone. **AM**

INFORMATION

- ① Pro Tools HD 8 Upgrade GB£150.00 (exc.VAT)
- Pro Tools LE/M-Powered Upgrade GB£90.00 (exc.VAT)
- Pro Tools M-Powered Full Version GB£180.00 (exc.VAT)

- Ⓐ Digidesign, Avid Technology Europe Ltd., Pinewood Studios, Pinewood Road, Iver Heath, Bucks, SL0 0NH, UK
- ① +44 (0) 1753 655999
- ② +44 (0) 1753 654999
- Ⓜ www.digidesign.com



THE WONDER YEARS

American legend Stevie Wonder helps legendary label Motown Records celebrate its 50th Anniversary with the release of his first-ever concert DVD, *Live At Last*. JONATHAN MILLER tracks its Brit-led audio journey – from recording to mixing to mastering.

Initially signed, at the age of 13, by Motown CEO Berry Gordy to the Tamla imprint after being discovered singing on a street corner by a relative of Ronnie White (The Miracles), Stevie Wonder has recorded 30-plus US top ten hit singles, and is the winning recipient of no fewer than 22 Grammy awards (including the Lifetime Achievement Award in 1996). Despite being blessed with an incredible career spanning five decades, what's yet to be seen is a Stevie Wonder live DVD chronicling and celebrating that success – until now.

March 9 sees the worldwide release of *Live At Last*, Wonder's first-ever live concert on both DVD and Blu-ray, which the Universal Motown press blurb claims captures a "lifetime of innovation and accomplishment".

The material was recorded over two nights (September 30, and October 1, 2008) while Wonder performed to rapturous 15,000-plus audiences at London's The O2 (arena) as part of his latest world tour.

Recordings Of Quality And Distinction

Tim Summerhayes was at the helm of the Red-TX truck at the venue. "The way that the show ran," Summerhayes relates, "was that they were passively splitting their microphones three ways at the show end – for FOH and two separate [DiGiCo D5 Live] monitor boards – one was looking after the band mix, and one was looking after Stevie's monitors..."

They were very reluctant to split it a fourth way to us.

"We decided to buffer the whole system between them and us with some high-impedance BSS MkII splitters; we would lose a little bit of gain on this, but, because we'd got the

mic amps onstage and the digital converters at the stage end, the lower levels didn't have to travel much distance... it came digitally to the truck, so there was no quality loss of any significance whatsoever."

From Trucks To Bikes

As so, Summerhayes found himself outside the vast venue assuming his usual position within MobileOne, Red-TX's distinctive recently refurbished 18-tonne Volvo truck with its new Studer Vista 8 Digital Live Production Console with 672 inputs and 336 total mono outputs, recording to Merging Technologies Pyramix DAWs at 24/48 – more than enough to handle the 80-plus channel count of Stevie and his band.

"For a guy with a harmonica and a Clavinet that's quite an achievement," notes Summerhayes. "But because we knew it was going to post-production – I knew David [Woolley] was going to be involved – we did quite a big audience miking array within The O2. I think we put about 14 mics up, and that meant putting a lot in the roof, hanging them from catwalks, and around the front. I don't think we sub-mixed those down; we just EQ'd them a little bit to tape, so we ended up with about 96 tracks at the end of the day."

Actually, two times 96 tracks at 24-bit/48kHz, as it happened, since Summerhayes sensibly recorded to two separate systems, even though the final commercial replay medium was going to include the higher resolution Blu-ray format, as well as 'traditional' DVD. "There were earlier discussions about recording at 96kHz, but they were subsequently quite happy to go with the standard resolution," notes Summerhayes, adding: "It's a cost issue, really, because of the extra stock and media involved, so I don't think anyone wanted to go down that route."

Retaining Discipline

Around 200GB of data stored on Glyph external hard drives were then dispatched by bike to Thornquest,

Another recent Stevie Wonder event was the televised celebration of the artist's receipt of the Library Of Congress Gershwin Prize for Popular Song – a sixty minute programme, taped by WETA TV, and hosted by President and Mrs Obama at the White House.



Dave Woolley at Thornquest Studios.

Mix Engineer David Woolley's now-home-sited post-production facility in West Sussex for the next stage in Stevie Wonder's precious onstage to offstage audio journey. Summerhayes signs off: "Amazingly enough, we didn't do a flat-to-tape recording; anyone can do that these days, but it's quite nice to retain some of the early disciplines of recording something properly, and we had a long enough soundcheck and listen-through the night before to be able to tailor things to tape, so everything was in nice little packages – the EQ was slightly there, so David didn't have to start totally from scratch."

Home And Away

Mix Engineer David Woolley, formally of Air Studios, Trillion, DoubleVision, and TeleCine Cell, before finally founding Thornquest in the mid-'90s to provide audio and video post-production services to British and overseas clients, including high-profile music-to-picture jobs such as Elton John (*Elton 60: Live At Madison Square Garden*), Lionel Richie (*Live In Paris*), and now, of course, Stevie Wonder. Woolley: "Everything I do is about working to picture, but the work covers quite a large spectrum, really – from full-on music jobs like this one, to television documentary jobs."

For the Stevie Wonder project we're technically talking a total running time of 258 minutes of LPCM Stereo and DTS 5.1 Surround Sound on the *Live At Last* DVD and 258 minutes of PLPCM Stereo, DTS-HD Master Audio 5.1, and Dolby Digital 5.1 on the Blu-ray version, including the complete two-and-a-half hour O2 arena-recorded main set. So, where to start, Mr Woolley?

Living In A Box

Woolley effectively began working with Stevie Wonder the day he attended the October 1, 2008, show at The O2, therefore getting an advance feel for the music he was about to mix in the flesh, so-to-speak. Then, within a week, Tim Summerhayes' 200-odd GB of time-coded BWAVs would be residing within Woolley's beloved SADiE PCM-H128 multi-channel recorder/editor, ready for further mix massaging before mastering. "There were 96 tracks," says Woolley, "However, a few of those weren't used, because the set list for the shows is really quite fluid. Stevie plays the songs he wants to play on any particular night; he sort of moves around, and the songs either get longer or shorter, with the band just following him – a bit like an old-fashioned bandleader, I think."

"The timeframe was really geared towards hitting a stage approval date with the people at Motown, so we wanted to lock some audio delivery stages with the video offline stages, so rather than them sending the video with Tim Summerhayes' live mix on it for the first picture approval stage,

they wanted to have the first remix stage laid back onto that offline before they sent that over to America."

Approval achieved, Woolley mixed on: "I tended to mix it in degrees of polish, rather than, say, work forever on the first few songs. I move roughly through all of it, and then work through it all again a bit less roughly, and then a bit less roughly once more, for the third time. Coming from more of a broadcast background, where pretty much at any stage somebody could say, 'Stop; this show's going out now!' it simply wouldn't do to have finished the first half of the show and not even have looked at the second half, so that's why I did it like that."

"For the main part, all of my work was on the SADiE H128, and I was really using that machine, if you like, to create the perfect multi-track. For example, when the guitars would double on this acoustic or that acoustic, or whatever, then you could switch off all the others and put the EQ on there. There was quite a lot of subtle patching up, because when these guys are following Stevie they're not quite starting at the same time, though they were excellent musicians, so plenty of respect for them."

At no stage in these proceedings did Woolley resort to using a console or DAW controller, instead favouring a mixing in the box approach. "It's not something that interests me greatly," he claims. "I do have some of the hardware controllers, but maybe that's a mixing style argument? I tend to think of mixing more as being clip-based, and I don't particularly feel the need to grab four faders at once and do a live mix on a sequence. I'm much happier to just key in values to turn things up or down, working in a much more non-linear fashion, I suppose."

Woolley's mix moved from one SADiE to... another: "That H128 was outputting 64-channel MADI to a SADiE LRX2 [Location Audio Workstation], and there were probably about 32 inputs for that, which were, if you like, remixed stems, so I'd have half-a-dozen for drums, for example, and I'd have a few more for guitars, and a few more for mixed keyboards, and a few more for the audience – that kind of breakdown."

Having effectively delivered his mixes to London's Metropolis on December 31, 2008, ready for mastering, in the new year Woolley subsequently worked there alongside veteran Mastering Engineer Tim Young, effectively trading his own Dynaudio Acoustics AIR15-based multi-channel monitoring system for Young's PMC BB5-A counterpart, and superior room acoustics for further refinement during the mastering process itself.

Woolley: "One of the things that marks out this project was going back – in the end – to a proper, full-on London room that's got proper expensive acoustics to iron out any issues that crept in at the lower acoustic spec of the home studio. I like to diverge things as much as possible, but it wasn't working that well, so when we got to Tim's room, having as much of a wraparound of the music outside the three frontal speakers as possible was paramount."

"The 5.1 mix and the stereo mix was actually done at Metropolis with the six discrete files being rendered by Tim through his mastering equipment, because it occurred to me that the thing you're asking a mastering engineer to do is correct deficiencies in the remix – dig into the mix and bring out or bury an instrument by

EQ, or whatever, so I thought, 'Well, wouldn't it be better if you actually did the mix at the mastering session?'"

As Woolley concludes, he can thank his lucky SADiE stars for that: "I was listening to the output of the LRX2 when I was mixing it, but then when I took that session to Metropolis and played the 32 into six on Tim's SADiE, I sort of carried on tweaking; when Tim was saying, 'Well, the mix is fine, but overall I'd like to hear a bit more of this,' or, 'Those instruments are too far to the rear; can you bring them forward a bit?' then that was easily achievable at the mastering session."

The Final Cut

Where music and 5.1 meet, there is often a measure of negotiation to be done, and Metropolis' Tim Young is no stranger to that: "The mix came in with no sub channel on it – that's out of the ordinary, but I kind of preferred that David had completed his mix without a subwoofer, because it wasn't an extra element that got in the way. We listened to it, and said, 'Well, okay, we're going to add a sub to this, so what are we going to do?'"



Tim Young of Metropolis Mastering.

"I'm of the opinion that when you go to friends' houses and see their 5.1 setups in their lounges, it's pretty obvious that the centre speaker – in the majority of domestic setups – isn't really designed to handle a lot of bass. Since 5.1 was originally invented for cinema, the centre channel is for dialogue, and the sub channel is for effects for movies, so I think that you have to be very careful if you put too much bass in the centre channel. We spent quite a bit of time on that; we created the sub channel, but if you turn the sub off it still sounds great."

Young claims that the dynamic mixing and mastering duo "...nailed it in two days, really – about 20 hours in total, maybe."

Admirably downplaying his own marvellous mastering contributions – again, mostly achieved digitally in the box, Young kindly credits Woolley with having "...done the lion's share of work on this project; Tim [Summerhayes] obviously recorded it, and got it down on tape sounding very good, but the majority of the creative work was David on his own, so any kudos should go to him."

The truth of the matter is that both the *Live At Last* DVD and Blu-ray's awesome audio content is down to the overlapping teamwork demonstrated by all three pivotal, professional individuals involved in this interlocking recording, mixing, and mastering chain; individuals who all have Stevie Wonder himself to thank for turning in such a memorable performance on the night, one we can now all enjoy in the comfort of our own living rooms. **AM**

THE WINNERS LIST

A round-up up of 2009 audio and sound awards so far...

BAFTAs, Oscars, Brits, Grammy Awards, MPG Awards they're all here, without all the superfluous NARC (Non-Audio Related Content), so you can peruse the stars of our industry without being distracted by designer dresses, red carpets, and other 'additional material' during the audio awards calendar. Our congratulations go out to all nominees and winners on behalf of the audio production industries they so professionally and creatively represent.

Academy Of Motion Picture Arts And Sciences 81st Academy Awards

AWARDS DATE: FEBRUARY 22, 2009

Achievement in Sound Editing NOMINATIONS

The Dark Knight (Warner Bros.) – Richard King
Iron Man (Paramount and Marvel Entertainment) – Frank Eulner, and Christopher Boyes
Slumdog Millionaire (Fox Searchlight) – Glenn Freemantle and Tom Sayers
WALL-E (Walt Disney) – Ben Burtt and Matthew Wood
Wanted (Universal) – Wylie Stateman

WINNER

The Dark Knight (Warner Bros.) – Richard King

Achievement in Sound Mixing NOMINATIONS

The Curious Case of Benjamin Button (Paramount and Warner Bros.) – David Parker, Michael Semanick, Ren Klyce, and Mark Weingarten
The Dark Knight (Warner Bros.) – Lora Hirschberg, Gary Rizzo, and Ed Novick
Slumdog Millionaire (Fox Searchlight) – Ian Tapp, Richard Pryke, and Resul Pookutty
WALL-E (Walt Disney) – Tom Myers, Michael Semanick, and Ben Burtt
Wanted (Universal) – Chris Jenkins, Frank A. Montaño, and Petr Forejt

WINNER

Slumdog Millionaire (Fox Searchlight) – Ian Tapp, Richard Pryke, and Resul Pookutty

BAFTA Orange British Academy Film Awards in 2009

AWARDS DATE: FEBRUARY 8, 2009

Sound in 2008

NOMINATIONS

Slumdog Millionaire – Glenn Freemantle, Resul Pookutty, Richard Pryke, Tom Sayers, Ian Tapp
Changeling – Walt Martin, Alan Robert Murray, John Reitz, Gregg Rudloff
The Dark Knight – Lora Hirschberg, Richard King, Ed Novick, Gary Rizzo
Quantum Of Solace – Jimmy Boyle, Eddy Joseph, Chris Munro, Mike Prestwood Smith, Mark Taylor
WALL-E – Ben Burtt, Tom Myers, Michael Semanick, and Matthew Wood

WINNER

Slumdog Millionaire – Glenn Freemantle, Resul Pookutty, Richard Pryke, Tom Sayers, Ian Tapp

BAFTA British Academy Video Games Awards

AWARDS DATE:
MARCH 10, 2009

Use Of Audio

NOMINATIONS

Call of Duty 4: Modern Warfare – Development Team: Infinity Ward/Activision
Dead Space – Don Veca: Electronic Arts
Gears of War 2 – Development Team: Epic Games/Microsoft Games Studios
Grand Theft Auto IV – Development Team: Rockstar North/Rockstar Games
LittleBigPlanet – Kenneth Young, Mark Healey, Leo Cubbin: Media Molecule & XDev Studio Europe/Sony Computer Entertainment
Super Mario Galaxy – Development Team: Nintendo

WINNER

Dead Space – Don Veca: Electronic Arts

The Cinema Audio Society (CAS)

2009 45th Awards:
Outstanding Achievement in Sound Mixing For 2008

AWARDS DATE: FEBRUARY 14, 2009

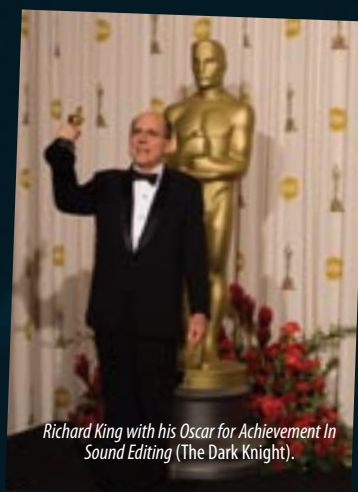
2009 CAS Career Achievement Award Honoree
Dennis Maitland

2009 CAS Filmmaker Award Honoree
Paul Mazursky

Motion Pictures

NOMINATIONS

Slumdog Millionaire –



Richard King with his Oscar for Achievement In Sound Editing (The Dark Knight).

Production Mixer: Resul Pookutty; Re-Recording Mixers: Ian Tap, Richard Pryke

The Dark Knight – Production Mixer: Ed Novick; Re-Recording Mixers: Lora Hirschberg, Gary A. Rizzo

Iron Man – Production Mixer: Mark Ulano; Re-Recording Mixers: Christopher Boyes, Lora Hirschberg

Quantum Of Solace – Production Mixer: Chris Munro; Re-Recording Mixers: Mike Prestwood Smith, Mark Taylor

WALL-E – Original Dialogue Mixer: Ben Burtt; Re-Recording Mixers: Tom Myers, Michael Semanick

WINNER
Slumdog Millionaire – Production Mixer: Resul Pookutty; Re-Recording Mixers: Ian Tap, Richard Pryke

Television Movies and Mini-Series

NOMINATIONS

John Adams, Episode 1: Join or Die – Production Mixer: Jay Meagher; Re-Recording Mixers:



Ian Tapp, Richard Pryke, and Resul Pookutty with their Oscars for Achievement In Sound Mixing (Slum Dog Millionaire).

Mike Minkler, Bob Beemer
Generation Kill, Episode 5: A Burning Dog – Production Mixer: Danny Hambrook; Re-Recording Mixers: Stuart Hilliker, Alexandros Sidiropoulos

John Adams, Episode 2: Independence – Production Mixer: Jay Meagher; Re-Recording Mixers: Mike Minkler, Bob Beemer

John Adams, Episode 3: Don't Tread on Me – Production Mixer: Jay Meagher; Re-Recording Mixers: Marc Fishman, Tony Lamberti

Recount – Production Mixer: Gary Alper; Re-Recording Mixers: Gary C. Bourgeois, Greg Orloff

WINNER
John Adams, Episode 1: Join or Die – Production Mixer: Jay Meagher; Re-Recording Mixers: Mike Minkler, Bob Beemer

Television Series

NOMINATIONS
24: Redemption – Production Mixer: William F. Gocke; Re-Recording Mixers: Michael Olman, and Kenneth Kobett

Dexter: Episode 5: Turning Biminese – Production Mixer: Roger Pietschman; Re-Recording Mixers: Elmo Ponsdomenech, Kevin Roache

House: Last Resort – Production Mixer: Von Varga; Re-Recording Mixers: Gerry Lentz, Rich Weingart

Lost: Meet Kevin Johnson – Production Mixer: Robert Anderson, Jr.; Re-Recording Mixers: Frank Morrone, Scott Weber

Mad Men: The Jet Set – Production Mixer: Peter Bentley; Re-Recording Mixers: Ken Teaney, Geoffrey Rubay

WINNER
24: Redemption – Production Mixer: William F. Gocke; Re-Recording Mixers: Michael Olman, Kenneth Kobett

Television – Non-Fiction, Variety, or Music – Series or Specials

NOMINATIONS
Deadliest Catch: No Mercy – Re-Recording Mixer: Bob Bronow

American Idol: Season 7 Finale

– Production Mixer: Edward Greene; Music Mixer: Randy Faustino; PA Mixer: Andrew Fletcher; Monitor Mixer: Michael K. Parker; Playback Music Mixer: Gary Long; Pre-Production Packages Mixers: Brian Riordan, Connor Moore; Audience Sweetener: Christian Shrader

Great Performances at the Met: La Boheme – Live Production Mixer: Bill King; Music Mixer-Live Performance: Jay Saks; Re-Recording Mixers: Ken Hahn, John Bowen

Great Performances: Company – Production Mixer: Jorge Silva; Re-Recording Mixer: Ken Hahn

Steve Miller Band Live in Chicago – Music Mixer: Andy Johns; Re-Recording Mixer: Brian Slack

WINNER
Deadliest Catch: No Mercy – Re-Recording Mixer: Bob Bronow

DVD Original Programming

NOMINATIONS
Smashing Pumpkins: If All Goes Wrong – Live Audio Mixer: Jon Lemon; Re-Recording Mixers: Kerry Brown, Kevin Dippold, Brian Slack

Little Mermaid: Ariel's Beginning – Production Mixer: Carlos Sotolongo; Re-Recording Mixers: Mark Fleming, Tom Dahl

Meerkat Manor: The Story Begins – Re-Recording Mixer: Nigel Squibbs

Justice League – Dialogue and ADR Mixer: Edwin O. Collins; Re-Recording Mixers: Tim Borquez, Eric Freeman, Doug Andorka

Wargames: The Dead Code – Production Mixer: Pierre Blain; Re-Recording Mixers: Terry O'Bright, Keith Rogers.

WINNER
Smashing Pumpkins: If All Goes Wrong – Live Audio Mixer: Jon Lemon; Re-Recording Mixers: Kerry Brown, Kevin Dippold, Brian Slack

CAS Technical Achievement

AWARD DATE:
FEBRUARY 14, 2009

Production

NOMINATIONS
 Sound Devices 788T Digital Recorder
 Aaton Cantar X2 Digital Recorder
 Electrosonics Venue Series Wideband RF Receiver
 Sennheiser MKH-8000 Series Microphones
 Sonosax SX-ST8D Digital Output Mixer

WINNER
 Sound Devices 788T Digital Recorder

Post Production

NOMINATIONS
 CEDAR DNS3000 Dialogue Noise Suppressor
 Audio Ease Speakerphone
 Dolby Media Meter
 Euphonix Artist Series MC Control
 Lexicon PCM 96 Signal Processor

WINNER
 CEDAR DNS3000 Dialogue Noise Suppressor

Motion Picture Sound Editors (MPSE)

2009 Golden Reel Awards

AWARDS DATE:
FEBRUARY 21, 2009.

Career Achievement Award

WINNER: BEN BURTT

BEST SOUND EDITING
 Sound Effects, Foley, Music, Dialogue and ADR in an Animated Feature Film

NOMINATIONS
 Bolt; Fear(s) of the Dark; Horton Hears a Who; Kung Fu Panda; Madagascar 2; The Tale of Despereaux; Wall-E; Waltz With Bashir

WINNER
 WALL-E

BEST SOUND EDITING:
 Sound Effects, Foley, Dialogue and ADR in a Foreign Feature Film

NOMINATIONS
 Australia; The Chronicles of Narnia: Prince Caspian; Hellboy II: The Golden Army; In Bruges; Quantum of Solace; Slumdog Millionaire; Sukiyaki Western Django

WINNER
 Slumdog Millionaire

Best Sound Editing: Music in a Feature Film

NOMINATIONS

Bedtime Stories; The Curious Case of Benjamin Button; The Dark Knight; Hellboy II: The Golden Army; Iron Man; Nick & Norah's Infinite Playlist; Slumdog Millionaire

WINNER
 The Dark Knight

Best Sound Editing: Music in a Musical Feature Film

NOMINATIONS

High School Musical 3: Senior Year; How She Move; Mamma Mia!; Shine a Light

WINNER
 Mamma Mia!

Best Sound Editing: Dialogue and ADR in a Feature Film

NOMINATIONS

Cloverfield; The Curious Case of Benjamin Button; The Dark Knight; Frost/Nixon; Iron Man; Milk; The Mummy: The Tomb of the Dragon Emperor; Revolutionary Road

WINNER
 The Curious Case of Benjamin Button

Best Sound Editing: Sound Effects and Foley in a Feature Film

NOMINATIONS

Cloverfield; The Curious Case of Benjamin Button; The Dark Knight; Eagle Eye; Indiana Jones and the Kingdom of the Crystal Skull; Iron Man; Speed Racer; Wanted

WINNER
 The Dark Knight

Best Sound Editing: Television Animation

NOMINATIONS

Avatar: The Last Airbender: Sozin's Comet Part 4: Avatar Aang; The Batman: Lost Heroes: Part Two; Family Guy: Road to Germany; The Marvelous Misadventures of Flapjack: Kid Nickles; Mighty B.: Bee Patients; The Penguins of Madagascar: Gone in a Flash; Spongebob Squarepants: Suction Cup Symphony; Star Wars: The Clone Wars: Lair of Grievous

WINNER
 Star Wars: The Clone Wars: Lair of Grievous

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Please note: We've taken care to try and not miss anyone or anything out. However, where we have included them, and unless otherwise stated, we decided that the production credits, listed nominated parties, and so on, should be restricted to the awards bodies' own listings (in some cases re-formatted to emphasise audio engineering and production involvement). Apologies on their behalf if there are any omissions.



- **Best Sound Editing: Long Form Dialogue and ADR in Television**
NOMINATIONS
Andromeda Strain: Part 1; The Librarian: The Curse Of The Judas Chalice; Fringe: Pilot; Generation Kill: Get Some; The Good Witch: The Good Witch

WINNER
Generation Kill: Get Some

- Best Sound Editing: Short Form Dialogue and ADR in Television**
NOMINATIONS
Californication: The Raw and the Cooked; CSI: Crime Scene Investigation: Bull; CSI: NY: Hostage #421; Fringe: Safe; Lost: Confirmed Dead #402; Mad Men: The Jet Set; The Tudors: Episode 210; True Blood: The Fourth Man in the Fire

WINNER
Lost: Confirmed Dead #402

- Best Sound Editing: Long Form Sound Effects and Foley in Television**
NOMINATIONS
Crusoe: Rum & Gunpowder; Fringe: Pilot; Generation Kill: A Burning Dog; Episode 5; Knight Rider: Prometheus: Pilot

WINNER
Crusoe: Rum & Gunpowder

- Best Sound Editing: Short Form Sound Effects and Foley in Television**
NOMINATIONS
Battlestar Galactica: He That Believeth In Me; CSI: Crime Scene Investigation: Bull; CSI Miami: Tipping Point; Eureka: Bad to the Drone; Life: Did You Feel That?; Lost: The Shape of Things to Come; My Own Worst Enemy: Breakdown

WINNER
Battlestar Galactica: He That Believeth In Me

- Best Sound Editing: Long Form Music in Television**
NOMINATIONS
A Raisin In The Sun; Bernard & Doris; Céline

WINNER
Céline

- Best Sound Editing: Short Form Music in Television**
NOMINATIONS
CSI: Miami: Tipping Point; Entourage: All Out Fall Out; Prison Break: Quiet Riot

WINNER
CSI: Miami: Tipping Point

- Best Sound Editing: Direct to Video**
NOMINATIONS
Batman: Gotham Knight; Futurama: Bender's Game; Get Smart's Get Bruce and Lloyd; Justice League: The New Frontier; Weirsville

WINNER
Batman: Gotham Knight

- Best Sound Editing: Computer Entertainment**
NOMINATIONS
Gears of War 2; Heroes Webisodes: Destiny; Need For Speed Undercover; Space Chimps; Wrath of the Lich King

WINNER
Gears of War 2

- Best Sound Editing: Student Film**
NOMINATIONS
Cupid; Elephants; Four; Joyets; Mummy's Boy; Street Angel

WINNER
Mummy's Boy

- Best Sound Editing: Special Venue**
NOMINATIONS
Grand Canyon Adventure: River at Risk; Mysteries of the Great Lakes; Wild Ocean

WINNER
Grand Canyon Adventure: River at Risk

Music Producers' Guild

Music Producers' Guild Awards 2009

AWARDS DATE: FEBRUARY 12, 2009

- Producer of The Year**
(sponsored by the BPI)
Also Brit Award: Best Producer

NOMINATIONS
Bernard Butler, Brian Eno, Steve Mac

WINNER
Bernard Butler

- Recording Engineer of The Year**
(sponsored by Prism Sound)
NOMINATIONS
Haydn Bendall, James Towler, Markus Dravs

WINNER
James Towler

- Best Mix Engineer**
(sponsored by Digidesign)
NOMINATIONS
Andy Bradfield, Cenzo Townsend, Tom Elmhirst

WINNER
Cenzo Townsend

- Best Mastering Engineer**
(sponsored by SADIÉ)
NOMINATIONS
John Davis, Ray Staff, Tim Young

WINNER
Ray Staff

- Best International Producer of the Year**
(sponsored by RAK Studios)

NOMINATIONS
Danger Mouse (AKA Brian Burton), Mark Ronson, Robert John 'Mutt' Lange

WINNER
Danger Mouse (AKA Brian Burton)

- Best Live Album of The Year (08)**
(sponsored by Shure)
NOMINATIONS
David Gilmour – *Live In Gdansk*, Girls Aloud – *Tangled Up*, Nephew – *Huzzband* – *Live In London*

WINNER
Girls Aloud – *Tangled Up*

- UK Album of The Year (08)**
(sponsored by Cream Recording Studios)
NOMINATIONS
Coldplay – *Viva La Vida*, Duffy – *Rockferry*, Elbow – *Seldom Seen Kid*

WINNER
Elbow – *Seldom Seen Kid*

- UK Single of The Year (08)**
(sponsored by Discovering Arts)
NOMINATIONS
Duffy – *Mercy*, Elbow – *One Day Like This*, Radiohead – *Nude*

WINNER
Elbow – *One Day Like This*

- The Joe Meek Award for Innovation In Production**
(sponsored by Music Producers Guild)
NOMINATIONS
Brian Eno, Bjork, Mark Ronson

WINNER
Brian Eno

- Best Re-mixer**
(sponsored by CMU)
NOMINATIONS
Calvin Harris, Dan Turner, Gareth Jones

WINNER
Calvin Harris

- Best Newcomer**
(sponsored by Deep Recording Studios)
NOMINATIONS
Dan Hulme, Paul Epworth, Steve Booker

WINNER
Paul Epworth

- Best Studio**
(sponsored by TL Audio)
NOMINATIONS
Abbey Road, AIR Lyndhurst, British Grove Studios

WINNER
British Grove Studios

- Unsung Hero**
(sponsored by Alchemia)
NOMINATIONS
Andy McBride, Crispin Murray, Xavier Stephenson

WINNER
Andy McBride

- Music Producers Guild Special Recognition Award**

WINNER
Chris Blair

Recording Academy – Producers And Engineers Wing

51st Annual GRAMMY Awards

AWARDS DATE: FEBRUARY 8, 2009

- Special Merit Award: Company Technical Grammy 2009**
WINNER
Universal Audio

- Special Merit Award: Individual Technical Grammy 2009**
WINNER
Clarence 'Leo' Fender

Grammy Awards

51st Annual GRAMMY Awards

AWARDS DATE: FEBRUARY 8, 2009

- Category 92: Best Engineered Album, Non-Classical**
NOMINATIONS
Engineer/s (Project, Artist, Label)
Joe Chiccarelli, Vance Powell, and Jack White III (*Consolers Of The Lonely*, The Raconteurs, Third Man/Warner Bros)
Al Schmitt (*Just A Little Lovin'*, Shelby Lynne, Lost Highway Records)
Jimmy Douglass, Russell "The Dragon" Elevado, and Jon Smeltz (*Lay It Down*, Al Green, Blue Note)
Steve Genewick, Al Schmitt, and Bill Schnee (*Still Unforgettable*, Natalie Cole, DMI Records).
Dyre Gormsen and Tony Maserati (*We Sing. We Dance. We Steal Things.*, Jason Mraz, Atlantic)

WINNER
Joe Chiccarelli, Vance Powell, and Jack White III (*Consolers Of The Lonely*, The Raconteurs, Third Man/Warner Bros)

- Category 93: Producer Of The Year, Non-Classical**
NOMINATIONS
Producer (Project, Artist, Label)
Danger Mouse (*The Black Keys*, Beck, Gnarl Barkley)
Nigel Godrich (Radiohead)
Johnny K (*Plain White T's*, Staind, Black Tide, 3 Doors Down)
Rick Rubin (*Metallica*, Neil Diamond, Ours, Jakob Dylan, Weezer)
will.i.am (*Estelle Featuring Kanye West*, Sergio Mendes, Flo Rida, Fergie, Chris Brown, Usher)

WINNER
Rick Rubin (*Metallica*, Neil Diamond, Ours, Jakob Dylan, Weezer)

- Category 94: Best Remixed Recording, Non-Classical**
NOMINATIONS
Remixer/s (Project, Artist, Label)
StoneBridge (*Closer (StoneBridge Radio Edit)*, Ne-Yo, Def Jam)
Justice (*Electric Feel (Justice Remix)*, MGMT, Columbia)
Junkie XL (*4 Minutes (Junkie XL Remix)*, Madonna Featuring Justin Timberlake, Warner Bros.)
Moto Blanco (*Just Fine (Moto Blanco Remix)*, Mary J. Blige, Geffen)
Deadmau5 (*The Longest Road (Deadmau5 Remix)*, Morgan Page Featuring Lissie, Nettwerk)

WINNER
Justice (*Electric Feel (Justice Remix)*, MGMT, Columbia)

- Category 95: Best Surround Sound Album**
Surround Production Credits (Project; Artist; Label)
WINNER
Mussorgsky; *Pictures At An Exhibition, Night On Bald Mountain, Prelude To Khovanshchina*; Paavo Järvi & Cincinnati Symphony Orchestra; Telarc. Surround Mix Engineer: Michael Bishop; Surround Mastering Engineer: Michael Bishop; Surround Producer: Robert Woods.

- Category 96: Best Engineered Album, Classical**
Engineer/s (Project; Artist; Label)
WINNER
David Frost, Tom Lazarus & Christopher Willis (*Traditions And Transformations: Sounds Of Silk Road Chicago*; Miquel Harth-Bedoya, Alan Gilbert, Silk Road Ensemble, Wu Man, Yo-Yo Ma, and Chicago Symphony Orchestra; CSO Resound).

- Category 97: Producer Of The Year, Classical**
Producer (first two recent credits from Grammy listing)
WINNER
David Frost (*Berlioz: Symphonie Fantastique (Gustavo Dudamel & Los Angeles Philharmonic); Right Through The Bone* – Julius Röntgen Chamber Music (ARC Ensemble).

Audio Media Winners

Yes, you can read more about many of the winners and nominees in the major film categories by flicking back through the pages of *Audio Media* magazine's *Final Cut* column. Here's a self-congratulatory list of awards-related stuff we've done:

Film Production/Post Production Articles

- Slumdog Millionaire* – AM issue 219, March 2009
The Dark Knight – AM issue 219, March 2009
The Curious Case Of Benjamin Button – AM issue 217, December 2008
Quantum Of Solace – AM issue 216, November 2009
Mamma Mia! – AM issue 214, September 2008
Hellboy II: The Golden Army – AM issue 214, September 2008
Wanted – AM issue 212, July 2008
Indiana Jones And The Kingdom Of The Crystal Skull – AM issue 211, June 2008
Iron Man – AM issue 209, April 2008

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Resul Pookutty,
Sound Mixer, Slumdog Millionaire

2009 Academy Awards Winner - Best Sound Mixing
2009 BAFTA Awards Winner - Best Sound





FOCUSRITE LIQUIDMIX HD

TDM Pro Tools Plug-in

Focusrite's well-engineered convolution-based plug-in suite is easy on the ears and the processor, says RICH TOZZOLI.

I have to admit that the only thing that kept me from running Focusrite's Liquid Mix 16 hardware in my studio was that you needed a slot-precious FireWire cable to run it. Well, scratch that problem: Liquid Mix HD is a new TDM plug-in for Pro Tools|HD users that provides up to 60 modern and classic EQ and compressor emulations. There are no cables needed with this bad boy – just install and play.

The Requirements

To run Liquid Mix HD, you'll need (of course) Pro Tools (V7.1 or higher), a minimum of 1GB of memory, and an iLok key. At a minimum, you'll also need Windows XP SP2 or OSX Mac 10.4.10 operating systems, and a Pro Tools Accel DSP card.

The plug-in will run at sample rates up to 96kHz with a totally respectable latency of 12 samples at all rates. Since I downloaded the basic installation software, a separate install of the emulation files was necessary.

It's a Convolution Thing

Like the aforementioned Liquid Mix 16, LiquidMix HD uses a technology called 'Dynamic Convolution' to generate the included emulations. Unlike the technique of simply modelling a sound, this actually samples the behaviour of audio within each unit at multiple levels, settings, and frequencies. Out of this mound of data emerges an 'accurate' emulation of each of the included analogue processors. These are available to be called up as a plug-in insert with each instance (stereo or mono), providing one compressor and one equaliser each.

What's Inside

The emulations provided upon installation are broken down into 40 compressors and 20 EQs. Additional library installs are available for free on Focusrite's website, with an expanding selection forthcoming.

The emulations are selected on the GUI by using the dropdown menu available above each graph. While you're never exactly sure what models they are, the cryptic codes such as Class A1: Brit 70's, Brit Desk 2, Danish Classic Tube, etc, do provide clues (except for Focusrite's own clearly labelled Red 7, ISA 130, and Green Channel Strip). The first thing I did was to scan through them all on the same piece of audio material, to hear the impact of each and get a feel for it.

The same dropdown menu applies for the EQ, except that here you can choose to load All Bands or those associated with the original model.

The compressor provides the standard controls, as well as additional knobs (Freq, Gain, Q) that become available when the Sidechain monitor switch is selected. Also, when Sidechain is active, another box appears offering EQ types (Low Shelf, Band Pass, High Shelf) and the EQ Graph will display a green line to indicate your settings.

There is an Input Level meter with associated Gain knob on the left side, and a Gain Reduction meter (down to -36 dB) for the Compressor aside the Compression Graph. In the middle sits a Mid Meter that shows the level of the signal directly after the Compressor, before the EQ. However, when the Compressor Post EQ switch is active, it will display the signal directly after the EQ,

"That's a serious amount of power considering how good these things sound. While I didn't use nearly that many, I found they barely put a dent into my cards – always a welcome thing on large, DSP intensive mixes."

THE REVIEWER

RICH TOZZOLI is a producer, composer, sound designer, and the Software Editor for *Pro Audio Review*. www.richtozzoli.com



before compression. On the far right sits an EQ/Output Meter that displays the overall level of the signal post EQ – even when the Compressor Post EQ is active.

The EQ graph sits above seven EQ bands, all of which are available in every instance. Note that depending on which EQ (or Compressor) is selected, certain bands will not be active and will be grayed out. It's cool that you can also choose to build a seven-band hybrid EQ, using a mixture of seven different emulations.

Down Below

At the bottom of the GUI sits a row of switches that can be turned on or off. The Free switch can be used to activate all the compressor controls, whether they were available on the original emulation or not. The Compressor Post EQ switch does what it states, as does the Sidechain Monitor and Compressor On switches. The Link switch will allow for both sides to be compressed equally when using a stereo instance.

Each of the seven bands of EQ must be turned on to be used, along with the master EQ on switch, which I found useful as a master On/Off to do instant comparative listening. The same applies for the Bypass On/Off, which disables all processing. Sometimes I would forget to turn the band on, and would

"To me, the true indication of a useful product though is whether it makes my mixes sound good, and is easy enough to use that I'll return to it when needed. That is certainly the case here with LMHD."



wonder why I heard no effect – just something you quickly get used to.

There are also Limit and Clip lights that indicate a hard limit overload and an output level clip. The small floppy disk icon above the Clip light is used for saving Snapshots, which are transferable settings files.

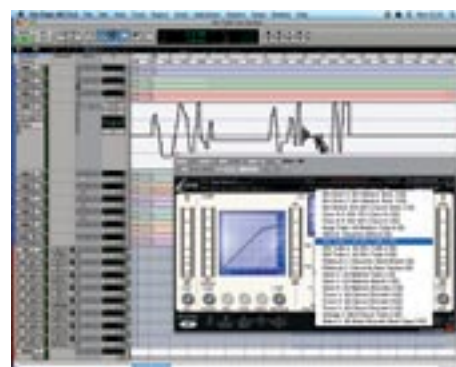
Up For The Count

LiquidMix HD is well engineered. Optimised specifically for Pro Tools|HD, users can get over 100 mono instances at once, depending on your system. For example, up to 59 stereo instances can be had on an HD3 (1 Core Accel and 2 Accel PCIe) at up to 48kHz, with 18 at up to 96kHz. That's a serious amount of power considering how good these things sound. While I didn't use nearly that many, I found they barely put a dent into my cards – always a welcome thing on large, DSP intensive mixes.

LMHD is supported by a nice variety of control surfaces, including Pro Control, Control 24, Command 8, C 24, D-Control & D-Command, Venue (D-Show), Mackie HUI, and Novation Automap.

Final Thoughts

Any convolution-based product is only as good as the software inside, and Focusrite has done an admirable job of sampling a decent selection here. While I can't tell you I've used every piece of hardware they've modelled, the ones I have used (and can recognise!) seem accurately reflected. It's nice that it's also an open-ended platform with additional downloadable emulations.



To me, the true indication of a useful product though is whether it makes my mixes sound good, and is easy enough to use that I'll return to it when needed. That is certainly the case here with LiquidMix HD. It got a good workout on my sessions because it's flexible and easy on the processor. Using it over time, I've developed my favourite 'go to' models and settings, but sometimes I'll try something new and see where it takes me. It's nice to have that option available.

If I did have a complaint, it's not about the sound. It would only be in the mouse operation of the knobs. I found them to be a little 'loose', and using the command key reset them to default instead of offering fine control, as is standard on many plug-ins. Sure, you can enter in the values, but it would be great to tighten them up a little in future versions.

Overall, LiquidMix HD is a good sounding, well-engineered piece of software that I highly recommend. With a street price of GB£299, it's excellent value for all the power that it provides. Listen for yourself: Focusrite provides a free 14 day trial of LMHD on its website at www.focusrite.com.

INFORMATION

GB£299.00 (inc.VAT)

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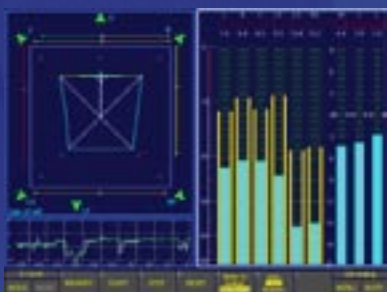
Monitoring

A quick roundup of the products that will help you to comply with the new standards.

Following on from last month's Limiting Loudness feature, STEPHEN BENNETT details the products that will help you comply with the new TV and advertising loudness regulations.

Last month we looked at the detail behind the new BCAP rules on relative subjective loudness between television adverts, and between programme and adverts. To provide a more concrete reference than the, "A consistent subject loudness must be maintained" wording, the ITU-R BS1770 algorithm and ITU-R BS1771 requirements were adopted as a reference by which this could be achieved. This month, we present a range of products that actually incorporate those recommendations...

German company **RTW GmbH & Co** produces several products that fulfil the requirements of the latest BCAP recommendations. The 10500X is a Digital 2-Channel Peak Programme Meter and ITU BS 1771 Loudness Meter with Audio Vectorscope. Designed for visualising two-channel digital audio on its TFT VGA screen, it's designed for applications such as broadcast and post production environments. It can be used to measure and display either peak or ITU BS 1771 loudness meters using various display modes.



The 10600X is similar to the 10500X but features up to six channels of peak or ITU BS 1771 loudness monitoring, making it ideal for multi-channel or surround work. It's available either as a desktop unit or half width rack module, and sports an additional SPL/Leq bargraph meter. The 11900 provides peak or ITU BS 1771 loudness monitoring for up to eight channels of 5.1, 6.1, and 7.1 multi-channel surround sound. It comes in a 19" rack format with optional VGA TFT monitor, and features a sophisticated 1/6-octave spectrum analyser for the monitoring of programmes based on metrological

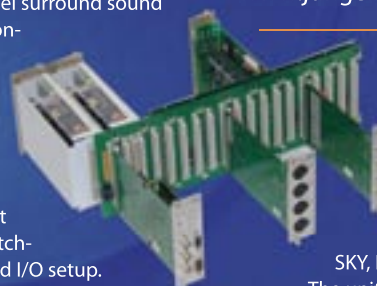


and acoustic criteria.

The 31900/31960 series is a complete sound analysis solution that conforms to the latest BCAP regulations. It's an eight-channel surround sound meter and analyser, monitor controller and router. It comes in two formats – a 19" rack mount unit with desktop controller and external VGA display, or a half 19" rack module with TFT for TV/video studios. Its preset management system allows for ultra-fast switching between configurations and I/O setup. The unit features PPM and ITU BS 1771 loudness metering for stereo and surround channels up to a 7.1 format, and a full complement of audio and signal analysing tools including an optional Dolby AC-3 and Dolby E decoder. www.rtw.de

It is based on a simultaneous combination of an automatic gain control, a Transient Processor for fast changes, and a look-ahead Peak Limiter for continuous unattended control of any programme material. Capable of using any kind of I/O (analogue and digital) sources, as well as SDI, HD/SDI, Dolby 5.1, and all its related meta-data, Level Magic is available in a variety of configurations to suit different applications. With up to eight channels available, it can be uniquely configured and remotely controlled via a web interface.

www.junger-audio.com



Unveiled at the 2009 AES, **DK-Technologies'** new MSD100C Loudness meter was developed in response to requests from key broadcasters and production houses including SKY, ITV, the BBC, and RAI in Italy.

The unit is designed to tackle the issue of the perceived loudness of audio signals and incorporates ITU BS 1770 and BS 1771 recommendations. It can be used in any broadcast or post production facility as a health check during production or prior to transmission.

Jünger Audio's Level Magic is an automated audio loudness control system for production and broadcast, which now conforms to the latest ITU-R BS 1770 recommendations.

Level Magic uses a sophisticated adaptive level control algorithm that is designed to adjust the level from any source at any time with no pumping, breathing, or distortion.



The actual unit provides accurate loudness matching of audio from a number of different sources and offers a selection of working modes, including a Gated mode for viewing loudness of audio material with long pauses. With selectable digital and analogue stereo inputs, the MSD100C Loudness displays left and right channel loudness, as well as the summed loudness, and the information is also available as a numeric readout. The meter uses the Loudness Units (LU) scale, covering a range from -18dB to +9dB, and features an audio vector oscilloscope, phase correlation meter displays, a full VGA colour display, and VGA output.
www.dk-technologies.com



Dolby's LM100 Broadcast Loudness Meter is a 1-U rackmount unit designed to measure the subjective loudness of programme dialogue and presents the results in a numerical format, eliminating the variations in results when interpreting traditional VU or PPM indicators. Dolby's device is designed for network centres, satellite facilities, cable head-end facilities, turnaround uplinks, programme ingest facilities, quality control, and post production; and now features the BCAP recommended ITU-R BS 1770/1 algorithms in addition to the Leq (A) measurement algorithm. The LM100 has multiple inputs that accept two-

channel analogue and digital, multi-channel Dolby Digital and Dolby E, and in-the-clear analogue. It has a software remote control that allows for extended logging and enhanced analysis via a computer. The unit comes in two configurations; the LM100-LTC, which can log to external time-code, and the LM100-NTSC, which additionally measures NTSC CATV and off-air signals.
www.dolby.com



TSL claims that its PAM1-3G8 provides 'Everything in 1 Rack Unit', with respect to compact audio monitoring solutions. It features dual 3Gbps SDI video inputs, Dolby E decoding, and high quality internal loudspeakers. The unit can simultaneously displays eight bargraphs of decoded audio, Dolby metadata, and BCAP standard ITU BS 1770 and BS 1771 loudness measurement using a pair of high resolution OLED displays. Found in broadcast facilities worldwide and used in master control rooms, playout suites, rack rooms, and



OB vehicles, the PAM1-3G8 is a valuable tool for ingest and quality control, and anywhere space is at a premium.

www.tsl.co.uk

Sonoris' Meter VST K-metering plug-in can measure peak and loudness levels of audio signals simultaneously, and present the results on a single scale. Along with standard loudness monitoring, the plug-in also supports the K-System developed by Bob Katz, Mastering Engineer and founder of Digidio mastering studio. Sonoris' Meter closely follows the K-system specifications, including the Leq (A) loudness metering and band limited pink noise monitor calibration. The software features an over-sampling peak meter mode which catches inter-sample peaks that can cause ear fatigue when using low headroom D to A converters as found in most consumer CD players. The software features a correlation meter that



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- enables the user to monitor the phase relationship between the left and right channels, and Sonoris plans to support the ITU-R BS 1770 and BS 1771 standards in the near future. The Sonoris meter is available for VST host on the Windows platform and for Sawstudio.
www.sonoris.nl



TC Electronics has upgraded its P2 level pilot Loudness Controller and Limiter to comply with the BCAP ITU-R BS 1770 regulations. The unit is a realtime loudness controller, multi-band processor and limiter designed for use in video and post production. Easy to use, the one-key set-and-forget operation means that hundreds of presets and parameters are available for use by a system installer or the station's audio engineer. Individual units are easily cloned, simplifying the maintenance of a large studio complex.

For expert preset programming and remote control, a computer can be used to adjust all parameters via the included Icon program.

P2 comes pre-loaded with a



wide variety of international standard presets out of the box, which can be used as starting points for further adjustments. Balanced and unbalanced AES/EBU I/O is standard, and outputs are always active while sample rate conversion can be invoked when using digital inputs.

TC Electronics also ship the LM5/LM5D plug-in for Pro Tools|HD. The 'D' version supports the BCAP ITU-R BS 1770 regulations, and also adds two long-term Universal Descriptors, Centre of Gravity and Consistency, whereby any sports, news, music, commercial, film, programme or track may be characterised easily and precisely. The software features a meter that displays instant loudness, as well as a loudness history in an intuitive fashion for multiple genres and formats. The meter not only measures dialogue loudness with accuracy, but any type of content in any format from mono to 5.1.

www.tcelectronic.com

The **Harris** Neural Loudness Control system is a one rack unit device that provides "Real-time measurement and control of loudness from the broadcast facility that guarantees a consistent viewer experience, independent of consumer equipment", and



which complies to the latest BCAP regulations. Unlike traditional volume management solutions, this innovative solution uses Neural Audio's perceptual loudness measurement tool to model how the human ear will perceive the loudness of the audio content. By accounting for the human experience of listening, Neural Audio's loudness measurement accommodates both stereo and multi-channel audio equally well. The functions of the NLC are also soon to be added as options to the following Harris products:

6800+ Distribution Amplifier

NEO XHD-3903 Video/Audio Processor Module

X85 Multiple Application Platform

www.broadcast.harris.com



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www.sennheiser.com



Audio Projects, Barcelona

Sun, sea, and competitive rates – is this really all it takes to make it in audio post production? Definitely not, but it helps. PAUL MAC talks to Andrew Galletly of Audio Projects about the Barcelona advantage.

Audio Projects, Barcelona, is an impressive post production business. Built up from very humble beginnings by the Managing Director, Andrew Galletly, alongside the wise business head of his father, John Galletly (Chairman), it has become a major player, primarily in European language dubbing and subtitling; but encompassing many roles in audio post production. These include sound design and mixing, plus media work such as DVD authoring, conversion, encoding, and so on. Two recent additions to the real estate promise new aspects to the studio's already busy workload with the purchase and refurbishment of the ex-DUY rooms in Plaza Lesseps, in the heart of Barcelona, and the construction of a Dolby Premier room amongst the city's '22@' development.

HQ for Audio Projects is a large facility in nearby La Garriga – 500m² in a late 19th century manor house. The La Garriga facilities extend to four dubbing rooms, three mixing rooms, a Foley studio, authoring and video editing suites, a transfer room, and office space. The new Lesseps space adds three

studios and a Dolby theatre amongst some very individual design features arranged in a U-shape with two entrances into a larger building. The main workhorse tool of choice in here is the new Fairlight Xynergi system, of which there are currently two on site. The newest acquisition is currently in its building phase, under the expert direction of Philip Newell (Reflexion Arts) who was also responsible for the company's other facilities. When finished, it will house a dedicated single large mixing room with Euphonix Fusion console, Reflexion Arts monitoring, and hopefully claim the coveted and still rather exclusive moniker of a Dolby Premier license.

Importantly, Galletly estimates that at least 90 percent of the core language dubbing work is for export and not for the domestic market. The client base spans the globe – Japan, Germany, Italy, Scandinavia, UK, US, and South America are amongst the origins. The main destination languages remain English, French, Spanish, German, Italian, and Catalan – with individual Project Managers for each. There are several reasons for this international approach – and the attraction of international business. One of the big reasons is price; alongside availability of talent. Barcelona is still a relatively low-cost place to do business and to live. Then there's the bonus of good weather a relaxed, sociable nightlife, and tapas – which all go some way to explaining the proliferation of international creative types in the area. So a reliable pool of talent and the ever-more pressing matter of budget makes conditions ripe for an operation such as Audio Projects.

This also means that Galletly does not have to rely on the unusual annual TV3 tender (TV3 is the major local domestic broadcaster). Galletly explains that the local broadcaster dubs around 2,500 hours of programming every year, and every year studios are asked to bid for that work – itemised by length of content, genre, and more. Once the prices are in, the work gets handed out in scaled lumps as a percentage of those hours. "Technicians go from one studio to another, depending on where the studios end up on the list," says Galletly. The tendency is for the less ambitious facilities to wait for the tender process to play out, then adjust the year's business plan accordingly, rather than spreading the liability and moving into the international league. There is some popular weight behind changing the system, possibly with TV3 specifying prices, and using and paying studios on merit – quality, speed, and so on.

Galletly goes on to note that a high proportion of studios in the area currently bank on the tender – and many would be unable to survive if that business went away.

Audio Projects is, however, TV3 'homologated' (approved). The studio is re-approved every year – equipment lists, staff levels, and so on are submitted, and then the company can work on projects that are co-produced with TV3. A large proportion of these are Catalan projects where the studio has to work with a homologated linguist at several stages of the project. The only downside of a Catalan production is that play with the localisation and inferences that accents provide is not really an option, so the dramatic aspects can sometimes be a challenge.

The new facilities in the centre of Barcelona offer not only local benefits, but the possibility of diversifying the work type even more. Just as in the centre of most major cities, one market that still demands proximity is the commercials and publicity sector. The new studios are perfectly equipped to handle the additional load of sound design and client amenities required of such an operation, and the new Fairlight Xynergis should greatly improve edit speed and workflow. There is also the bonus of minimised risk – the dubbing work continues and so the facility will not be prey to the developing difficulties of the commercials world, especially now that unprecedented pressures are coming to bear on pricing in the sector.

"It's also funny," says Galletly, "Because, dubbing studios... they hate each other. You will never give work to another dubbing studio, unless he's a very good friend... But publicists, they do cooperate, they do give stuff, it's a different atmosphere. Other publicists have given us work since we've been here." August was especially healthy as, unlike many smaller businesses in Barcelona, Audio Projects doesn't shut down in August.



Andrew Galletly, MD of Audio Projects.

"I'm thinking of bringing somebody in just to do some market research, some marketing, and contact promotion," continues Galletly. "Not only in Barcelona, but trying to do what we've done in the dubbing as well, so try and get work from and compete with London, Paris, or Munich – and offer the client the possibility of flying to Barcelona for a couple of days."

Of course, the other big diversification potential lies in Fig Tree Studios, Galletly's new development in the 22@ district of Barcelona. 22@ is an ambitious project that is gradually transforming 200 hectares of old industrial land into "an innovative district offering modern spaces for the strategic concentration of intensive knowledge-based activities". You can get more of this kind of speak by visiting www.22barcelona.com, but essentially, it's a revitalisation of a massive area – recognising the changing face of business in modern Europe and making sure the city is well placed to compete, helped by a sizable investment in infrastructure – around 180 million Euros. Galletly sees the potential in this golden project, and is joining other major players in the Spanish post production markets that are already based in the area.

A Dolby Premier room will, of course, require feeding with original and more complex productions to keep it happy – not just the continuing dubbing work. With plenty of financial incentives for production to come to Spain, as well as an expanding domestic output and an additional trend towards dealing with South American productions, Galletly is optimistic about the future of Fig Tree. In fact, he already has a couple of projects waiting to get in there. Specifically in the film market there is serious reason for optimism. Galletly: "One of the producers said to me that they were expecting to increase their production 30% in 2009. A lot of films are being shot now. Also I guess it's because of the lower cost of digital equipment, the RED camera and so on."

The main building at La Garriga is still the heart of Audio Projects – it feels busy and productive the moment you walk in. The production team has the dubbing process down to a fine art, and Galletly is full of praise both for his team, and for the actors and actresses that come in and work so efficiently. The dubbing rooms don't have booths, as Galletly

has found this only adds another level of obscurity to the process – the technicians and talent are, for the most part, in the same space.

The facility runs the Fairlight Pyxis system (11 systems, to be precise) to deliver video and non-linear speed to the rooms, which is why the purchase of the Xynergy systems makes so much sense – keeping it in the family. In the press related to the purchase, Galletly said, "We were very impressed by the simplicity of the control surface, and the fact that Xynergi's fast editing and mixing interface delivers all we need for high-end video production."

He hints that his engineers are now getting up to speed with the system, though there's still room to make the workflow quicker. Basically, allocating time to getting up to speed with the new systems and the array of rapid routes through various tasks.

The Audio Projects business is becoming more and more diverse by the day. The core activity remains the language dubbing and associated tasks, and that is operating with knowledgeable and experienced staff both in the production and in the project management departments. This then leaves Galletly free to explore new avenues and new possibilities for the business – including the Plaza Lesetta and 22@ projects. "I'm the Commercial Director, I bring the work, so, I'm selling." The film ambitions or 'the big league' as Galletly puts it, is not so much an opportunity to make lots of new money, but an augmentation that could bring even more contacts and even more kudos to the Audio Projects operation. "I don't expect to make money with the mixing or film studio. And this is what I say to my client now, I say, 'Look, this is a room that you can come to with your mixer... I won't say to you, 'you can have these three days, but then you have to stop because a new business is coming' – no – 'come in, it's yours, and you've got the best tools of the trade, the best monitoring system, the best desk, and you can work on the system you want.' It's an enlightened, creative approach to growing a business in a creative (and enlightened?) industry. 

INFORMATION

 www.audioprojects.com

BROADCAST LOUDNESS CONTROL

With the LEVEL MAGIC™ series designed for TV, IP, Sat, Radio, OB and Studios, Junger Audio allows every day thousands of broadcasters to consistently control Peak and Loudness, regardless of input levels, unattended, 100% sure...and ITU BS1770 compliant!

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Studio Monitors

Audio Media buddies up with some of the industry's finest, as we dive into the suitably un-murky environment of studio monitoring.

What do you rely on to present your hard work, day-in, day-out? Is it time to consider a step up in your monitoring, or even a step into the multi-channel scene? Read on, as we look at a selection of studio monitors that may just make the grade, delivering that delicious sound directly to your shimmering brain.

Acoustic Energy Pro has launched a new compact 5.1/2.1 monitoring system adding the ProSat and ProSub to the existing AE22 and AE1 Classic. The ProSat features a 130mm bass/mid driver (50W) and 25mm ring-radiator high frequency driver (25W) with incorporated amps. Active filters integrate the drivers at 2kHz using third order Bessel technology, while EQ'ing options include input sensitivity, low frequency extension, and high frequency control.



www.acousticenergypro.com

Building upon its predecessor, the Truth B2030A, **Behringer's** Truth B3030A studio reference monitor boasts built in 75W and 35W power amplifiers with deformation-resistant Kevlar coned 6.75-inch woofers and 2-inch velocity ribbon tweeter transducers. The active crossover network uses 4th order Linkwitz-Riley filters and, when combined with Behringer's wave guide technology, the company claims that these monitors deliver an impressive sweet spot.



www.behringer.com

Dynaudio Acoustics' AIR 12 monitors come equipped with an advanced bass management system with selectable crossover points. The two-way near-field monitors come with DSP room adaption and are compatible with the AIR family, meaning workable solutions for stereo, 5.1, and above. The 8-inch woofer and 1.1-inch soft dome tweeter together deliver a frequency response of 37Hz-22kHz with individual monitors precisely matched within a ± 0.2 dB tolerance.



www.dynaudioacoustics.com

Joining **Adam's** A-range of monitors is the new A5, a scaled down version of the A7, employing proprietary transducer technology (ART). Exclusive to the A5 is stereo-link, with additional I/O for the second stereo channel enabling the user to simultaneously operate both speakers with one controller. The A5 features built in direct drive amplifiers with a 2 x 25W output, compared with the 2 x 50W output of the A7s.



www.adam-audio.com/studio

Blue Sky's Big Blue 5.1 system partners five three-way, tri-amplified 500W SAT 12 satellites – each featuring a 12-inch high-excursion hemispherical woofer with an ultra-low distortion four-inch hemispherical mid-range driver, plus a one-inch dual concentric diaphragm tweeter with integral waveguide – with one (or more) 1,000W SUB 15 Universal sub-woofers. Bass management is courtesy of Blue Sky's Bass Management Controller (BMC), two of which can be combined to create a 10.2 surround system.



www.abluesky.com

The MA-15DBK Stereo Reference monitors from **Edirol** offer various handy inputs and outputs in a compact footprint for engineers with limited space at their disposal. Three independent source inputs (jack, CA line, and S/PDIF) allow referencing from any two line-level sources with independent volume control for both. When connected, the headphone socket overrides the speaker output, eliminating fiddly disconnections.



www.edirol.com

Audix's easy to set up, self-powered Powerhouse range comprises the 20W PH3-S and 25W PH5-VS. The smaller PH3-S has a quoted frequency response of 100Hz to 20kHz, compared with 75Hz to 20kHz of its larger counterpart. The master speaker houses the amplifier and has two RCA audio inputs and a volume control. It connects to the slave speaker via a quarter-inch cable, offering simple operation for both installation and mobile applications.



www.audixusa.com

Digidesign's RM1 and RM2 near-field monitors combine Digidesign's knowledge of digital audio with PMC's expertise in cabinet craft and manufacture. The bi-amplified speakers have on-board digital signal processing engines that handle crossover frequency, speaker positioning and EQ settings, trim level, and Bass Port Emulation – the latter being a feature allowing the user to hear how the mix would sound on typical ported speakers.



www.digidesign.com

Event revealed its new upstart at NAMM this year in the form of Opal – a bi-amplified, ported near-field monitor designed for detailed dynamics and low distortion, and featuring rotatable tweeter/waveguide assemblies for vertical or horizontal mounting for the monitor. Delivering 750W of peak power and driven by drivers with 63mm neodymium motors which incorporate X-coil technology for improved speed and control, they provide a frequency response of 35Hz-22kHz.



www.event1.com

The Worldfamous **A7** Has A Big Little Brother: The New **A5**

"With their precise and clear sound, the A7s are hard to beat."

A7 review - MIX Magazine 01/2008

"Wow! That about sums it up!"

A5 review - Enjoy The Music.Com 10/2008



Exigy's S412G is a four-way, fully active, high SPL, non-ported, direct radiator loudspeaker initially designed for Germano Studios in New York. Designed to move beyond the widely used 2x15 horn systems, though with similar SPL, it is driven with the Exigy DA4800 four-channel class D amp with 24/96 networked DSP in every channel. Each driver has its own channel – eight per cabinet. Systems are carefully optimised to the studio by Exigy.



www.exigy.co.uk

French innovator **Focal** has condensed its engineering skill into the Compact Monitoring System range comprising the CMS 65 and CMS 50. Both contain Polyglass coned, drive unit woofers, and aluminium-magnesium inverted dome tweeters. User adjustable settings include sensitivity, volume, high pass filter, and LF and HF shelving. The speakers are also supplied with a rubber decoupling table stand for vertical and horizontal use, and two adjustable front spikes for soundstage height control.



www.focalprofessional.com

The 8250A bi-amplified DSP monitoring system from **Genelec** delivers a frequency response of 38Hz-20kHz to engineers with limited space. They integrate Genelec's Directivity Control Waveguide (DCW) that ensures balanced frequency response in on and off-axis listening positions. Via the GLM control network, adjustment of levels, distance delays, and flexible room response improvement equalisation can be achieved using the company's automated calibration system (Autocal).



www.genelec.com

Far by ATD2 has an intelligent range of digital, active, three-way monitors in its XM series. All speakers in the range utilise CAC (Centre Acoustic Coherence) technology, which causes the medium-tweeter to behave as a point source. Thanks to this coherent approach, loss of reference is eliminated when switching between differently sized monitors. The option of controlling up to seven loudspeakers and two subwoofers is provided via the Far Link network.



www.atd2.com

Completing **Fostex's** PM series is the 'ultra compact' PM0.4. Lending itself to desktop use, professional console-top studio monitoring, and audio installations, the monitors' small size also makes them convenient for portable applications. The bi-amp design drives 18W through both LF and HF drivers. The 4-inch woofer and UFLC 0.65-inch soft dome tweeter are housed in a glossy black front baffle.



www.fostexinternational.com

Harman-owned **JBL Professional** unveiled its new LSR2300 series studio monitor system at NAMM this year. The series features two bi-amplified studio monitors, the 8-inch LSR2328P and the 5-inch LSR2325, which both include low and high frequency trim controls. The LSR2310SP 10-inch sub-woofer, with 180W power amplifier and a frequency range of 28Hz-750Hz, extends the response of the system below 30Hz.



www.jblpro.com

AT4050: created by one, used by everyone.

Before a product becomes so legendary that it is used by everyone, someone has to create it. When Akino-san, an employee of Audio-Technica for many years, spent hundreds of hours on the creation of the AT4050, he was working to obtain the AT4050's superb quality of sound reproduction.

Not only did he succeed in his ambition, but today, the AT4050 is used all over the world in a wide variety of applications, from recording studios to live sound to broadcast.

And when he's not creating legends, Akino-san loves the serenity of fishing.

Audio-Technica's range of studio microphones start from just £100*. To find out more, email info@audio-technica.co.uk or telephone +44 (0) 113 292 0463.

*AT2020 suggested retail price



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We could bore you with the superbly finished aluminium die-cast cabinets which offer unconditional rigidity, the internal damping and bracing which banishes unwanted colorations, or the unique Al/Mg (aluminium/magnesium) inverted dome tweeter which easily extends up to 28kHz at -3dB, with a close to perfection pulse response.

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www.scvlondon.co.uk



Del Palmer

Kate Bush
- uses the Solo 6BE



Chris Tsangarides

Judas Priest, Black Sabbath, Tom Jones
- uses the Twin 6BE



Sean Genockey

Manic Street Preachers, Kula Shaker, Tom McRae
- uses the Solo 6BE

The O 410 from **Klein + Hummel** is a distillation of 40 years of monitor design that all started with the world's first ever active, multi-channel studio monitor, the OY, in 1967. The O 410 are three-way, mid-field monitors, which can also perform as main monitors, with a frequency response ranging from 30Hz to 24KHz (± 3 dB). The waveguide features Mathematically Modelled Dispersion that 'correlate objective measurements and subjective perception'.
www.klein-hummel.com



Lipinski prides itself on being the only audio-ophile manufacturer active in both the recording arts and engineering sciences, and its presence in highly respected institutions and studios around the globe backs this up. The L-707 main speaker provides a frequency response of 56Hz-20kHz ± 1 dB (31Hz-40kHz ± 3 dB) from one 1-inch tweeter and two 7-inch mid woofers in MTM configuration within a sealed enclosure, which the company believes ensures accurate, uncoloured referencing.
www.lipinskisound.com



The rather slick-looking Studiophile DSM1 (6.5") and DSM2 (8") from **M-Audio** integrate DSP technology, onboard digital control, anodized-aluminium cone LF drivers and Teteron soft fabric neodymium HF drivers, with built-in heat sinks. They are the result of a collaboration with sister-company Digidesign, which lent its expertise in DSP technology to manage the digital crossover, EQ, and acoustic space controls.
www.m-audio.com



Hot out of the manufacturing plant last month was **KRK System's** R6 passive studio monitor, which borrows the 'radically-radiused' baffle of the Rokit range for reduced diffraction distortion, and a greater sweet spot than flatter edged models. The R6 also incorporates a front-facing bass port that KRK states "minimises low-frequency phase distortion and unwanted frequency emphasis typical of rear-facing bass ports."
www.krksys.com



Building upon the reputation of the HR Series, **Mackie's** HRmk2s (High Resolution Active Studio Reference Monitors) are designed to complement high-definition audio, cinema, and gaming systems. The new HR824mk2 and HR864mk2 models were designed in conjunction with the guys from EAW, and are both THX pm3 certified. Handy extras include Overload Protect – a flashing of the power light when the signal level of the input becomes too high.
www.mackie.com



The MF2 and MF3 monitoring systems from **Munro Acoustics** are an evolution of the M3F and M3FX systems, and are designed for film/TV post production and bespoke cinema installations. The systems utilise Dynaudio drive units throughout with a strict avoidance of compression drivers and horns, which the company believes ensures 'superior sound quality'. Matching surround speakers and subwoofers are available, as are a range of amplifier and processor packages.
www.munro.co.uk



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Prices start from around £12,000 plus VAT and Delivery. Options include DAW control bay and patchbay.
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audient

Boasting an impressive bass response down to 25Hz, **PMC's** IB2S-A three-way monitor is the powered version of the IB2S, which has been endorsed by a succession of high-profile clients. The monitor employs PMC's unique Advanced Transmission Line technology, which PMC believes generates detailed, natural sound with room filling acoustics, plus bass that still registers at low volumes. Identical tonal balance also makes them suitable for surround sound mixing. www.pmc-speakers.com



Quested has had installations in famous facilities since the 1970's. The S Series of compact, self-powered loudspeakers is its most recent monitoring product, and includes the S6, with a 130mm bass driver (65W) and 20mm soft dome tweeter (45W); the S7, which manages 140W and 80W RMS from its 165mm LF driver and 28mm tweeter respectively; while the S8 tops out at 22W (LF) and 150W (HF) from its larger (200mm) bass cone/ 28mm tweeter. www.quested.com



Tannoy's new precision range employs its dual concentric driver technology (two drivers in one). According to Tannoy, this ensures that sound comes from a single position achieving a 'true point source'. Incorporated wideband technology allows EQ enhancement to pinpoint specific instruments, and Activ-Assist software automatically works out optimal settings for the DIP switch equalisation features on the amplifier. www.tannoy.com



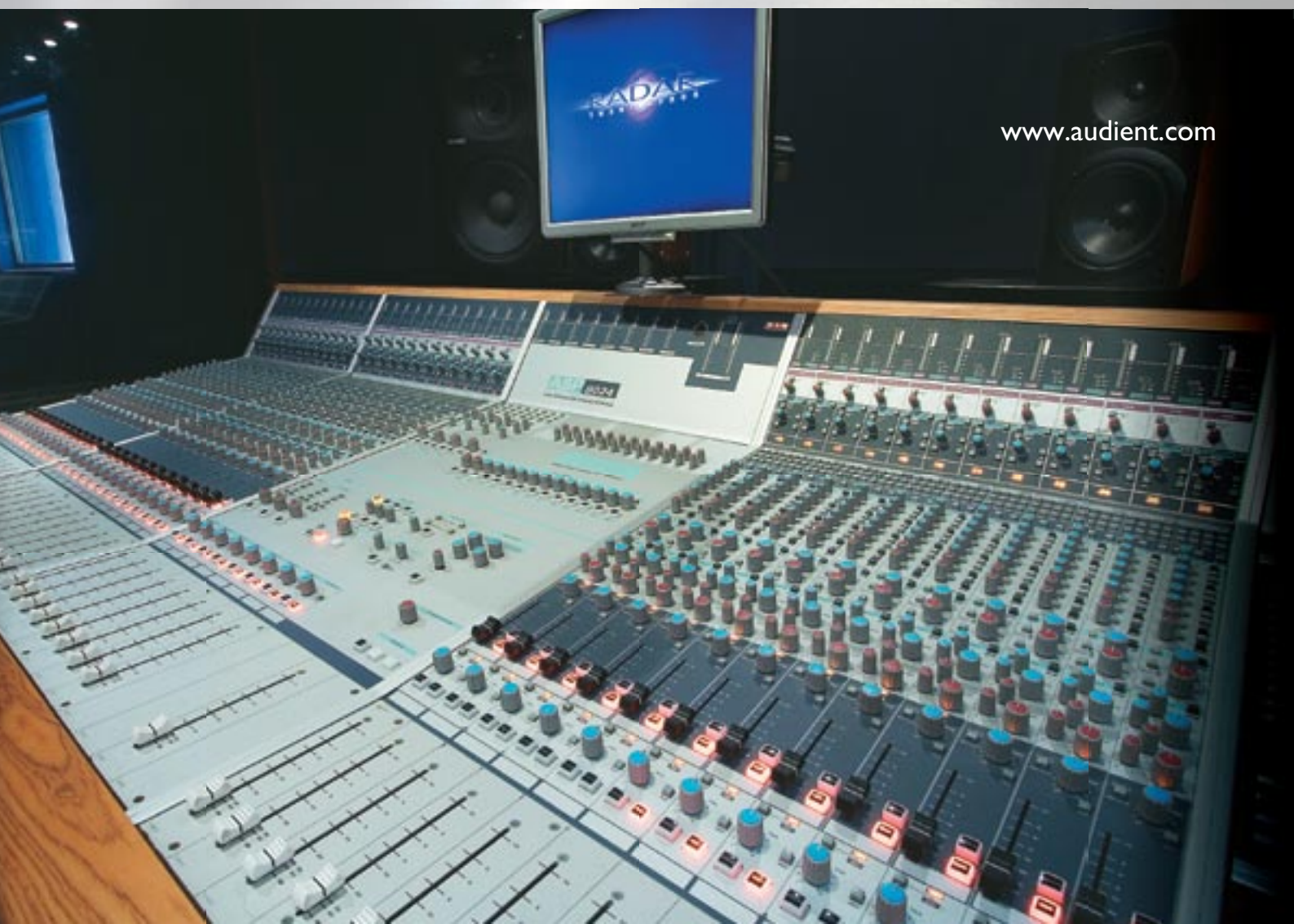
Swiss outfit **PSI's** active range of stereo monitor systems amalgamates its CPR (Compensated Phase Response) and AOI (Adaptive Output Impedance) technologies in four model sizes. CPR technology removes phase irregularities in PSI speakers combined to form a surround sound system, maintaining an accurate phase response throughout. AOI technology modifies amplifier activity providing highly accurate impulse behaviour with a minimum of transducer colouration. www.psi-audio.com



Samson's versatile active range MediaOne comprises the 3a, 4a, and 5a active studio monitors with 3-inch, 4-inch, and 5-inch extended range co-polymer woofers and 25mm silk dome tweeters, plus precision tuned, rear-vented enclosures that provide an extended low frequency response. The master speaker houses a stereo power amplifier that drives both monitors and also contains an auxiliary input for any other device with a stereo line level signal. www.samsontech.com



The MSP range from **Yamaha** features the MSP7 and MSP5, the former being larger, and the latter, littler, for more restricted environments. The MSP7 has an 80W power amplifier for its 6.5-inch cone woofer, while the 1-inch tweeter dome has a 50W amp. Yamaha claims that its main weapon is the steep roll-off between the low- and high-pass filters generating "smoother, cleaner crossover performance in the critical mid-range." www.yamaha.com



video guide

A Sound Pro's Guide To Video

Video Guide: Cinematography

Cinematography is a creative form that relies on technology. Most Directors of Photography do not regard themselves as technical, instead working intuitively with light to recreate what they visualise in their minds when they read the script. An outstanding example of this is Douglas Slocombe BSC, whose long filmography includes many Ealing comedies and the first three *Indiana Jones* films. The last 30 movies he shot were made without any help from a light meter.

The artistic and more managerial characteristics of the role are underlined by the clear demarcation between the Cinematographer setting the lights and deciding on lenses and camera movement, but in most cases, not actually running the machine that captures the images created. There are some DPs who do operate the camera on a shoot, for example David Higgs BSC, who has done just that on the Nineteen Eight-Three installment of the *Red Riding* trilogy, shown recently on Channel 4, and the four TV films he shot for Director Peter Kosminsky.

Higgs says whether the DP operates the camera depends on the production and, in the case of Kosminsky, the way the Director likes to work. On most film shoots, as with *Lesbian Vampire Killers* on which David Higgs concentrated on the lighting, the job is taken by a Camera Operator, also known as the Second Cameraman (the DP being the First Cameraman), although the non-gender specific title is preferred these days. There is the opinion in the business that in these digital days, DPs should not operate the camera but should evaluate the images on a good quality HD monitor and leave the business of manipulating the hardware to someone else.

While the DP is responsible for lighting the scene, setting up the camera, and directing how it will move, the operator is the one that manages and physically manipulates the equipment during the shooting process. Working under the direction of the DP, the operator will view the action through the viewfinder and is responsible for ensuring that the image is right, with the actors and everything else in shot. He or she also positions the camera and makes basic movements, which can be on a pedestal, dolly, handheld, or in a Steadicam harness.

The camera operator works with the controls on the body of the camera but the critical area of focus is the responsibility of another member of the crew. The focus puller, also known, particularly in the US, as the assistant cameraman or the first assistant cameraman, fits the appropriate lenses and focuses them during a shoot, following the action and making adjustments according to directions from the DP prior to rolling. In addition to this he or she maintains the camera, with responsibility for its proper operation during the shoot, and generally assists the operator.

Most DPs work their way up through the ranks, being a Camera Operator and, prior to that, a Focus Puller, before reaching the pinnacle of lighting. Alan Hume BSC, who shot 21 *Carry On* films, four *Bonds* and *Star Wars: Episode VI - Return of the Jedi*, says focus pulling is a tricky job and the holder of the position needs a thorough knowledge of lenses and depth of field.

Before getting to pull focus, many junior members of the camera team will have been a Clapper Loader. The alternative name for this post is Second Assistant Cameraman, but within the UK industry the term 'Clapper Loader' has sustained because it covers the two main functions of the role. The first part of the name concerns the clapperboard, familiar to British people of a certain age from also being the name of a 1970s TV magazine programme for children about cinema, presented by Chris Kelly.

This iconic tool of filmmaking consists of a slate with a pair of hinged boards, known as clapsticks, on top. Information including the title of the production, the names of the Director and DP, the date, scene, and take numbers, is written on the slate, which is more likely to be made of a modern synthetic material these days but the old term is often used regardless. The Clapper Loader holds the board in front of the camera at the start of shooting of each sequence and calls out the scene and take numbers, so there is both a visual and aural record of this data.

The clapsticks are then banged together, acting as a synchronisation point for the Picture Editor. The Clapper Loader has two other important responsibilities: as the name implies, he or she loads the film or video magazine into the camera or recording device, but just as vital is the task of keeping notes on the shooting, which are written up in the camera report (aka camera sheet or camera log). This informs the lab, or specialist facility, of the type of footage – in the case of film, detailing emulsion – and whether it was shot at night or during the day, and if the scenes are exteriors or interiors.

These camera team roles are still part of modern film and programme making, although the size of a crew depends on the type of production (feature, TV drama, documentary, news, corporate). These days developing technology is having more of an influence and has led some in the business to wonder whether the old job titles should be changed, as the jobs are not quite as they were in the old days. Cinematographer, Author, and Trainer Paul Wheeler BSC feels there is still a need for each individual position; even though there is no magazine to load on video and digital shoots, the Loader is still important in keeping track of the tapes and logging the material. Because of this, there is the suggestion from those in the business that the old British names for the jobs should be dropped in favour of the American alternatives.

As HD and digital cameras become more common in production, crews have to consider different ways of not

GLOSSARY

Pan Glass

Ever wondered what that thing that looks a bit like a camera lens hanging by a chain or strap around the neck of the Director or Director of Photography is called? It's a pan glass, a brownish-yellow or blue-green glass filter that is used to judge tone values in a shot. Most people would think it was purely for viewing, to get a sense of the composition of a scene without looking through the camera lens, but the pan glass emerged during the days of black and white cinema to give the DP an idea of the tonal appearance of colour images in monochrome. With the shift away from black and white, new viewing filters appeared to match the emulsions of colour stock. These days the pan glass is more a badge of office than a vital piece of kit, but DPs do still use it to look at clouds during exterior location shoots and judge whether a new set-up will match previous takes.

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Interviews with Douglas Slocombe, Alan Hume and David Higgs by Kevin Hilton, *British Cinematographer* magazine



Cinematography

news

FilmLight, the British manufacturer of the Baselight colour grading system and Northlight scanner, is launching a new system this month for transferring raw footage from the Red camera to quickly produce dailies for material for online conforming.

Baselight Transfer (BLT) is a standalone product consisting of a 5U 12TB RAID5 array. This houses FilmLight's conform and primary colour correction tools, along with 16 CPU cores, GPU acceleration, three compact Flash card readers, and the Truelight colour management program.

BLT is intended to be used both close to the set or at a post house. In the first case, the system would be used to examine REDCODE RAW rushes coming from the Red camera, allowing quality and composition to be evaluated. In the second, facilities will be able to convert material from the digital camera and create either graded dailies or a conformed version ready for online editing.

Among the main features of Baselight Transfer are: real-time 2k decode and review from Compact Flash cards; Firewire drives or hard disk; ability to play native R3D on a time-line; and outputs in DNxHD MXF format for loading direct into an Avid editing workstation.

just physically dealing with the equipment, but also keeping track of material. This is now in the realms of metadata, so the Camera Assistants often have to log information using a laptop computer connected to the recorder or camera; but the need to pass on the details of the shoot remains absolutely necessary to allow the Picture Editor and Colour Grader to begin work.

Synchronisation has always been a critical element in any production, but for multiple camera shoots and those using digital or HD cameras, it is now even more of a consideration. The old clapperboard method served very well for years, with the Editor synchronising the picture frame featuring the clapsticks closing with the sound of the clack on the audio tape. Other ways of achieving sync include automatic slating, and using a sync-pulse generator or a crystal oscillator to control the speeds of the camera and the sound recorder.

In automatic slating, a light within the camera flashes and 'marks' the first couple of frames as the film begins to roll. At the same time, a tone is sent to the audio recorder over a sync-pulse cable or wireless link. The Editor later matches up the two signals in a similar way to the clapperboard information. In later years, a synch-pulse generator was built into the camera; this transmitted a signal at the same frequency of the camera speed to the recording machine. When the audio tracks were transferred to magnetic tape the pulse was able to control the speed of the recording to align the sound with the pictures. A more refined version of this method is to have crystal oscillators in both the camera and the recorder, with the pulse lining up once the audio has been transferred to mag film.

The advent of video called for a new way of matching the pictures with the sound. The solution was time code, standardised by the Society of Motion Picture and Television Engineers, which is why it is often known as SMPTE code. Time code generators on both the camera and the audio

recorder produce a series of pulses for each frame to create a record of individual frame numbers, plus hours, minutes, and seconds. Data such as scene, take, camera, and tape or roll number, can also be recorded by these systems.

Time code is now regarded as the most efficient way of synchronising not just sound and vision, but also multiple cameras. This last requirement is not straightforward, and additional devices may have to be used to achieve full sync over a number of cameras and video/media and audio recorders. These include Lock-it boxes, which are external time code generators attached to each piece of equipment that needs to be synced. Despite the development of time code generators and their general use, clapperboards are still used on many shoots, if only to provide a visual record of the production and takes at the beginning of recording.

Synchronisation between pictures and sound is the first tangible link between the shoot and post-production. The second is the dailies. Also known as 'rushes', in film these are the first positive prints of a day's shooting, which are developed overnight at a specialist laboratory and printed with a single light intensity and synchronised audio. These are returned to the location for screening to the crew and cast, so everyone can see how the production is progressing and decisions can be made as to future direction. Dailies also give an impression of how the lighting is looking and what colour correction may be necessary.

Dailies have now moved into the HD domain but remain a firm part of the filmmaking process. They will be discussed further in the next *Video Guide*, which marks the move away from the subject of cinematography and into the world of post-production. **AW**

Lexicon Reinvents Reverb... in Surround



PCM96 Surround Reverb/Effects Processor

Expanded I/O with numerous multi-channel configurations.

Get the full story at www.lexiconpro.com

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Roger Lindsay

Front of House

Van Morrison

"After 10 years of mixing on almost every digital control surface, I believe the PRO6 measures up to the XL4 standard that everyone's been trying to emulate for years. I'm convinced this is the first console that actually sounds as good as its much-loved forebear, but with all the advantages offered by the digital domain. The PRO6 has brought back the instant access enjoyed with analogue consoles and made live mixing far faster and more intuitive as a result."

PRO6 supplied by
Canegreen



PRO6

LIVE AUDIO SYSTEM

- Proven, stable, Linux operating system
- Audio outputs time and phase coherent
- 8 fully-assignable effects engines
- Up to 36 Klark Teknik EQs
- Dual daylight visible display screens

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AUDIO MEDIA

Sound Reinforcement



AMSR News **62**

Technology, application, and installation news from the global sound reinforcement community.



JoeCo Q&A **64**

Audio Media talks to JoeCo owner Joe Bull about his hotly anticipated BlackBox Recorder.



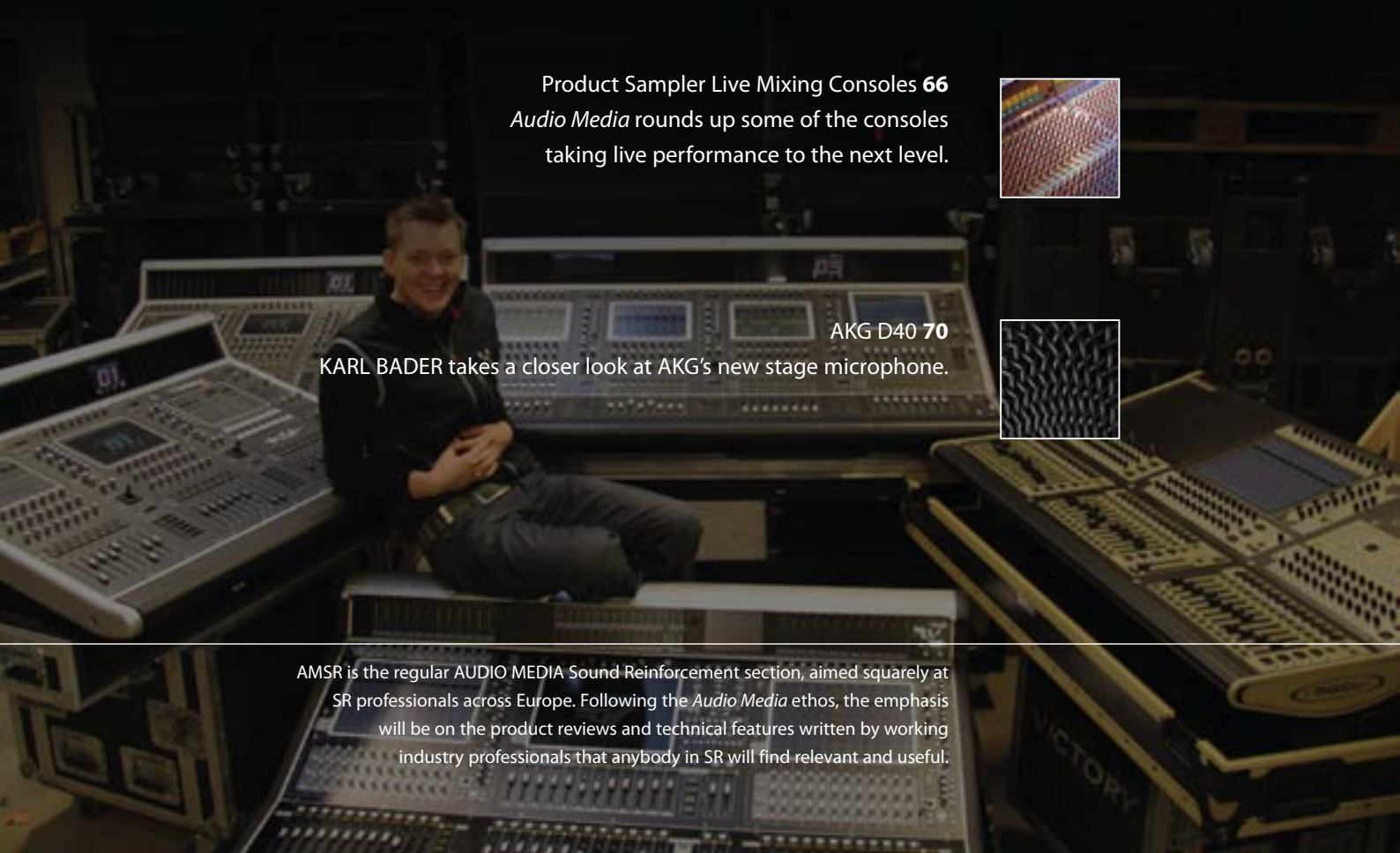
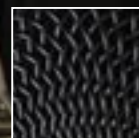
Product Sampler Live Mixing Consoles **66**

Audio Media rounds up some of the consoles taking live performance to the next level.



AKG D40 **70**

KARL BADER takes a closer look at AKG's new stage microphone.



AMSR is the regular AUDIO MEDIA Sound Reinforcement section, aimed squarely at SR professionals across Europe. Following the *Audio Media* ethos, the emphasis will be on the product reviews and technical features written by working industry professionals that anybody in SR will find relevant and useful.

NEW PRODUCT



Electro-Voice has unleashed the new N8000-1500 with FIR drive, which the company claims is the most powerful loudspeaker controller currently on the market.

The new system is capable of processing over 1,500 MIPS, more than twice as many as the previous N8000 model. Electro-Voice has also announced a new series of amplifiers in the Q Series, comprising four fresh models to choose from.

www.electrovoice.com

NEW PRODUCT



As well as announcing a whole new product line to be unveiled at Prolight + Sound this year, Adamson also has a new addition to the M-series of monitors.

The M12 is a low profile stage monitor featuring the ND12L, Adamson's first lightweight, long-excursion 12" Kevlar neodymium driver. The Kevlar cones also ensure durability in wet conditions making the M12 suitable for outdoor events.

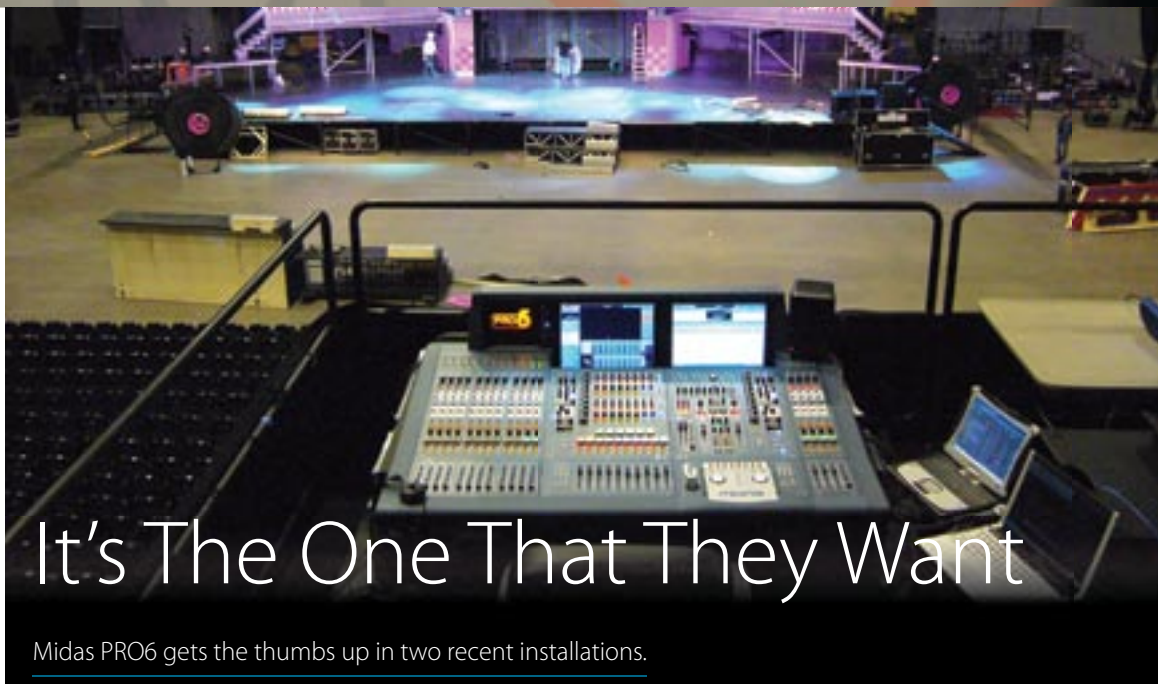
www.adamsonproaudio.com



Orbital Sound, the exclusive UK distributor for HME's entertainment-sector products, has announced the release of HME's new DX121 One-to-One Digital Wireless Intercom.

The DX121 provides flexible wireless connectivity for studio or OB environments, simply plugging into a standard intercom station or belt-pack headset jack, or connected to a matrix intercom system via its four-wire interface. The DX121 system is designed for applications in production studios and control room operations, as well as for live-event crews.

www.orbitalaudio.co.uk



It's The One That They Want

Midas PRO6 gets the thumbs up in two recent installations.

Midas' PRO6 live audio system has been doing the business recently in a number of applications across the globe. A production of the musical *Grease* at the 5,500 capacity Oslo Spektrum arena, used a PRO6 loaned by local technical suppliers AVAB CAC. Thomas Wold (monitors) and Stein Andre Hovden (FOH), also from AVAB CAC, had ten days to acquaint themselves with the PRO6 before the opening night. As well as being impressed by its sound and easy automation system, Hovden also commented, "Another plus was the easy access to my 25 band channels and 15 main actors; it's amazing to be able to navigate so fast between 64 channels using only 12 channel faders."



Calling once again on Midas' console experience is the Empire Theatre in the Queensland city of Toowoomba, the first theatre in Australia to install a Midas Heritage 2000 in the late 90s, and now the continent's first performing arts centre to acquire a PRO6. Head of Audio, Ralph Atkinson, wanted to maintain the audio quality of the older ana-

logue console while upgrading to the greater flexibility and extra features that digital consoles can provide.

This all comes as Midas celebrates the shipping of its 100th PRO6 unit.

Midas Consoles
+44 (0) 208 646 7114
www.midasconsoles.com

Believe Tour Trusts Meyer Sound

Currently powering Criss Angel's *Believe* tour at Luxor Las Vegas, are Meyer Sound's loudspeaker and the Matrix3 audio show control system. A CueConsole modular control interface is employed to manage FOH functions, with system outputs routed to a total of 99 self-powered Meyer Sound loudspeakers, all supported by the 152-input Matrix3. Loudspeakers are either connected directly to the Matrix3 or – as with the M'elodie and MICA line arrays – via a Galileo loudspeaker management system.

The M'elodie line array loudspeakers are also complementing a Las Vegas-inspired spectacular taking place at the Friedrichstadtpalast venue in Berlin. The newly

installed audio system was chosen after sampling three separate systems for three months each. The network is also managed by the Galileo system, which can be controlled with a wireless tablet PC running the Compass control software.

Meyer Sound
+1 (510) 486 1166
www.meyersound.com





Prolight + Sound Taster

We have a look ahead at some of the new products that will be gracing the scene in Frankfurt this year.

There's a hustle and bustle of new products ready for showcasing at Prolight + Sound 2009, which kicks off in Frankfurt on April 1. British mixer manufacturer, Allen & Heath, has a couple of exciting new products ready for release.

The company plans to introduce its first broadcast console in 15 years as part of the ZED range of small-format USB mixers, plus updates for the new iLive-T Series of compact digital mixers, which allows interfacing with EtherSound, ADAT, and Aviom. Continuing in the mixing mould, German company Lawo will be offering the opportunity to get some hands-on experience of the mc290, mc266, and mc256 digital mixing consoles. We also have word that a world premiere of a brand new development from Lawo will be unveiled on home turf. Roland Systems Group joins the proceedings, previewing its RSS M-48 Live Personal Mixer.

Giving voice to the above are new products from Community Loudspeakers and Lab.gruppen. CML has three new ranges of speakers to showcase: Entasys – a new high-performance, three way full-range column loudspeaker, the VLF Series of subwoofers, and the MX41E series of stage monitors. Lab.gruppen is unveiling its new LM 26 stand-alone digital loudspeaker processor, as well as a powerful new addition to its PLM series of powered loudspeaker systems, the PLM 14000. The FP+ Series also has three new amplifiers joining the ranks, the FP 14000, 9000, and 4000. See them for yourself this April.

+44 (0) 1784 415950
www.prolight-sound.com



QSC Launch New Products

From humble origins operating from a garage in California, to internationally recognised leaders in the pro-audio industry, QSC continues to progress within the live sound reinforcement market. The company has had a busy start to the year, with two new speaker ranges and a surface mount subwoofer already released. The new Installation Line Array (ILA) v2 comes to end-users as an affordable turnkey package including dedicated full-range and subwoofer loudspeaker components, processing, amplification, and suspension accessories. Keeping things in check on-stage are the new CMS range of stage monitors comprising the CSM10, CSM12, and CSM15, models with 10-inch, 12-inch, and 15-inch woofers respectively. The AD-S28Tw subwoofer handles a continuous power capacity of 250W while the two, 8-inch propylene cones have added protection for humid environments.

+1 (800) 854 4079
www.qscaudio.com



NEW USER

Tim Kliphuis has chosen a DPA 4099 instrument mic to accompany him on tour, allowing him to be confident that he is delivering consistent sound from venue to venue.

"Having my own mic saves long discussions about the sound I want, as the 4099 dictates and guarantees the sound I will get." DPA microphones is also supplying microphones for two Disney stage musicals in South Africa, *High School Musical* and *Beauty and the Beast*.

www.dpamicrophones.com



SOFTWARE UPDATE



Hot on the heels of Mackie's TT24 control surface 1.7.0 release, which added full I/O routing, support for the LP48 card, FOH/MON linking, and DS3232 mic pre gain compensation, users can now download the 1.7.1 update. This maintenance release has more than 30 enhancements and fixes, so all users of the TT24, TT System 32, DS3232, and expansion cards are recommended to upgrade.

www.mackie.com

NEW USER



One of Denmark's leading production companies, Victory Tour Production, has added to its rental inventory with two DiGiCo SD8 consoles. They partner DiGiCo's D1s and D5s that Victory has been using for the last two years. Victory's Theis Wermuth stated that, as well as providing excellent sound quality, the SD8s were also user friendly. "It's very straightforward to use. If you spend literally one hour with it in the warehouse, you are ready to go on the road with it."

www.digico.org

STRESS FREE LIVE CAPTURE

JoeCo & The BlackBox Recorder

Since his time as Managing Director of Studio Audio (SADIE) Joe Bull has been busy hatching a new product that has already attracted much interest and praise from the market. Indeed, a surprise appearance at this year's Winter NAMM show in January proved the concept in an outpouring of approval from all who visited the booth. Not far from shipping, this 1U, 24-track recorder, which boasts simplicity of operation, low cost media, no moving parts (bar the drive), and the 'virtual sound check' amongst its greatest features, looks set to find plenty of rack space in the live performance, broadcast, and multi-track recording markets. *Audio Media* spoke with Joe about the BlackBox, and hassle-free recording...

AM: Please could you tell us a bit about the BlackBox Recorder?

JB: When I started JoeCo, I wanted to develop a product that would simplify the acquisition process, particularly for bands. Rather than having to lug a laptop or a complete workstation to a gig, you'd be able to have a device that would plug directly into the mic insert points, or a suitable part of your mixing console, and effectively record everything down onto an easily transportable medium.

The easiest transportable medium at the moment is a standard USB hard drive that you can buy from somewhere like Amazon at around £50. Recording on FAT32 in Broadcast WAV format means that both Macs and PCs, and virtually every other bespoke workstation that's around, can read it and work with the recorded material without having any transfer, or any file conversion.

AM: You've tried to make this product as simple as possible. Can you describe the basic operation?

JB: You turn the power on, then normally within 5-10 seconds it's gone through all of its boot-up routines – it's logged the drive, and it's ready to record. Then you press the 'Record' button, and you've started to record 24 channels of 24-bit/96K audio, directly onto the USB drive.

Obviously, there are more detailed set-up things if you want to go into the menu structure.



AM: Can you stack units for more tracks?

JB: We've designed the system so it should be able to do up to 96 channels. We may find when we actually do the tests in due course that we can do more.

AM: One particular aspect is the option to use console insert points as your record/playback path.

JB: This gives the ability to do virtual sound-checking. Having recorded a section, you can then listen back to that last take again and again while you perfect the monitor mix for the band, or perfect the front of house sound – without the band having to completely exhaust themselves.

Typically, you'll plug it directly into the insert points on the console and set your mic amps up on the console so that they don't overload – as you normally would do in a live situation. That will give you a perfect record level directly into the box.

We supply a loom that plugs directly into typical insert points on most analogue consoles, and into the BlackBox Recorder. The return signal is driven back into the insert returns on the console. Because we've stolen those insert points, we echo eight of them on the back of our box – if you still want to plug a compressor or an effects unit, or whatever, into the lead vocal, you've still got some of those insert points available.

AM: And what about interfacing with digital consoles?

JB: We're in the process of developing digital interfaces, which initially will work with AES/EBU, and ADAT Lightpipe. You'll be able to take those digital inserts directly from a digital console.

AM: And remote locations, such as stage boxes?

JB: You could just press 'Record' and leave it. A £50, 500GB drive would give you over 20 hours of 24-track, 24-bit, 96kHz recording. If you're having to press 'Record' half an hour before the gig starts, and don't press 'Stop' until half an hour after the gig ends, you've probably wasted about £3 worth of your disc space. It's not really a killer problem.

In terms of control protocols, we've got Sony 9-pin control, and MIDI Machine Control, so there's no reason why you can't control it remotely, if that's what you want to do.

AM: It's an easy fit into the live sound market, and into the broadcast or archive environments.

JB: We are also getting some enquiries for the straight 24-track playback market – people who want to just press 'Play' on the front of the box – for theatres, for example. We're not pretending

it's a cart machine – it isn't – but if that's what people need, that's fine.

AM: Where do you draw the line on features and development?



JB: I'm keen that it shouldn't develop into a pseudo workstation. The whole point is that you want something that's simple to operate, and does what it says on the tin well, rather than trying to grow into all things for all men. If you want a workstation, there are dozens on the market that do exactly what workstations do. Then you get into the bickering about how much spare processor power you've got, whether you can have this plug in or that plug in – I've been there, done that. I don't want to muddy the water by trying to complicate this product.

If you're a live sound engineer, you've got more than enough on your plate, worrying about front of house sound. You want to be able to concentrate on that aspect of your job, because it's the audience who are there on the night, who have paid their money, and you need to do a good job for them.

There are an awful lot of big bands that end up having to take a separate Pro Tools operator on the road with them, with all the costs of extra hotel rooms, extra subsistence bills, and so on – purely because the systems are so big and so complicated that the live sound engineer doesn't want to deal with it. If all he's got to do is press 'Record', it's a significant cost saving.

AM: What kind of feedback have you had on it so far?

JB: It's been incredibly positive. We previewed the product at NAMM in January and we've had many more enquiries off the back of that than we'd expected. I'm really looking forward to Frankfurt MusikMesse. It's looking very encouraging, partly because there isn't anything else out there at the moment that does this particular job. It doesn't try and emulate what other standalone recorders do – it's designed specifically to capture the performance of a live event. **AM**

INFORMATION

JoeCo Ltd.

www.joeco.co.uk

info@joeco.co.uk

+44 (0)1223 911000

Soundcraft® **Si2**

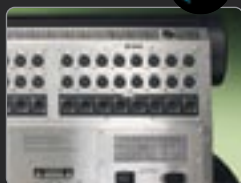
DIGITAL LIVE SOUND CONSOLE



Maximum power. Minimum footprint.

The new Soundcraft Si2 delivers powerful, 56 input, 32 bus digital mixing in a compact console that feels analogue, connects analogue and even costs analogue.

Just plug it in where your analogue console used to be.



All the connectors on the back. Feel familiar?

There's no remote rack with the Si2 – all inputs and outputs are right there on the back. And unlike other digital consoles, the Si2 delivers physical access to all busses at all times.



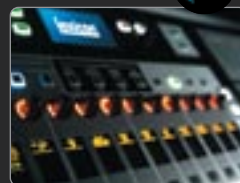
Distributed Display Technology. Clearly a better idea.

Doesn't it make sense to have your visual feedback right where you're working? That's why we gave the Si2 a series of super-bright, hi-res OLEDs instead of a single, central screen.



In no time, it's showtime.

With the Si2, how you work is up to you. Put your VCA groups wherever you want them – Soundcraft's revolutionary FaderGlow™ will always remind you what mode you're in.



Isn't it cool when the world's leading effects company is in your group.

The Si2 features built-in effects from our friends at Lexicon, and dynamics processing that draws on the heritage of BSS Audio and dbx.



Need even more mixing capacity?

For some applications, even 56 inputs isn't enough. Thankfully, the larger Si3 delivers 72 inputs with all the same powerful Si Series features and functionality.

Mixing Consoles

Nearly a year on since our last update, *Audio Media* presents the latest and greatest products from a cross section of console manufacturers.

It seems almost every company producing live mixing consoles has been updating, improving, or launching new products this year as digital technology continues to redefine the boundaries of live sound. *Audio Media* has been snooping around for the latest releases to bring you bang up to date with the best out there.

Allen & Heath's GL2800 dedicated live sound monitor mixer is a compact and affordable addition to its popular GL series. Sixteen mixes can be globally assigned as mono and stereo, with each stereo mix providing level and pan control as well as stereo AFL signal checking.

A plethora of handy tools includes independent talkback to each performer and FOH, swept HPF on each mix to cut unwanted low end, and built-in mic splitter.

www.glseries.com



Cadac's S-Digital mixing console transports the looks, features, and audio quality of its analogue predecessor, the J-Type, and introduces them to the digital age.

The aim was to create a digital mixing console that "sounds, looks, and behaves like a familiar analogue desk" for use in the theatre sound industry. It features 72 input channels, 66 mix busses, and three stereo listen busses.

www.cadac-sound.com



Digidesign's flagship model, the D-Show live sound control surface, was designed with input from some of the world's leading mix engineers in touring sound, theatre, and fixed installations. It is fully compatible with all Venue I/O components and Venue software (running D-Show 2.5 or higher), ensuring complete show file portability. The fully expandable (46-56) frame's fader strips incorporate EQ, inserts, dynamics in/out, and safe switches.

www.digidesign.com



The iLive-T series from **Allen & Heath** condenses the technology and performance of the iLive range into a compact and affordable digital mixer. It features a remote stagebox, digital snake, and Ethernet control on top of 64 channels – each incorporating dynamics, parametric EQ, HPF, and delay, while the 32 mix outputs have parametric EQ, delay, and graphic EQ. Also included are eight stereo FX processors as part of the 64x32 RackExtra DSP engine.

www.ilive-digital.com



DiGiCo's SD7 is a culmination of five years' work and hails itself as "two generations in one step". Its engineering design was inspired by the aviation, marine, and automotive industries where demanding environments required robust new materials. Powerful DSP is managed by the new Stealth mixing and routing engine based on Super FPGA, while Tiger Sharc technology hosts an arsenal of effects.

www.digico.org



Digidesign's live sound range, Venue, has a compact addition in the D-Show Profile, a 'size-conscious' version of the D-Show control surface for use in small- to mid-sized environments. The 24-channel frame ensures familiarity for engineers already using the D-Show. Profile also features eight General Purpose Interface (GPI) inputs and eight GPI outputs to connect and control any external equipment that can react to simple switch closure.

www.digidesign.com



Audient has been producing live-performance related hardware since 1997. The Aztec live performing mixing console continues this focus and is designed specifically for the sound reinforcement professional, with a lightweight frame that endears it to both mobile applications and fixed installation. Features include: 4-band EQ with parametric mids, sweep HF and LF with switched bell/shelf curves, and a sweep hi-pass filter.

www.audient.com



The SD8 from **DiGiCo** is the company's most affordable console yet, with a compact design incorporating Super FPGA technology and floating point processing technology transplanted from the SD7. The latest Tiger Sharc FX engine enables a wide array of EQ and dynamics to be applied to the 60 strong interchangeable mono or full stereo audio channels, all topped off by a 15" touch sensitive TFT LCD.

www.digico-sd8.com



Innovason's mixing and recording console Eclipse, is equally at home with FOH, monitors, or in an OB van. The control surface comprises 48 faders and 48 fully configurable rotary knobs, the latter being assignable to internal effects from VB Audio through the SmartPanel system. Fully processed, configurable balanced XLR outputs offer a choice between analogue, AES, or ADAT over fibreoptic.

www.innovason.com





DiGiCo

SDB

THE ONLY CONSOLE THAT TICKS EVERY BOX



	FEATURE	DiGiCo SDB	OTHER
▼ 0	Complete with 48/8 Stage Rack with 100m Digital MADI snake	☒	☐
▲ 2	Unlimited application areas	☒	☐
▲ 4	Exceptional cost to feature ratio	☒	☐
▲ 6	Up to 60 mono or stereo channels with full processing (equal to 120 channels of DSP processing)	☒	☐
▲ 8	24 mono or stereo busses + Stereo Master with full processing (equal to 50 busses of DSP processing)	☒	☐
▲ 10			
▲ 12	On Board local I/O with 8 Mic/Line inputs, 8 Line Outputs and 8 AES I/O	☒	☐
▲ 14	Open format & platform recording	☒	☐
▲ 16	12x12 Matrix with full output Processing	☒	☐
▲ 18	6 stereo floating point FX processors	☒	☐
▲ 20	2 independent solo busses for monitoring	☒	☐
▲ 22	Snapshot cue control with crossfade	☒	☐
▲ 24	37 touch sensitive faders for instant control	☒	☐
▲ 26	Touch screen control	☒	☐
▲ 28	Full worksurface precision metering	☒	☐
▲ 30	Networking and remote control	☒	☐
▲ 35	Floating point processing	☒	☐
▲ 40	Future proofed FPGA audio core	☒	☐
▲ 45	Remote studio grade mic pre's	☒	☐
▲ sp	MADI connection	☒	☐
	USB compatible for session saving & transfer	☒	☐
	Offline & online session control	☒	☐
	DiGiCo high grade processing and audio path	☒	☐

www.digico.org

prolight+sound Frankfurt am Main, 1-4 April 09, Hall 8 – Stand F42

Bringing a compact solution to **Lawo's** renowned MC² mixing console series is the MC²56. Operating on the series' standard HD core, it boasts in excess of 8,000 crosspoints, 144 summing busses, and 500 DSP channels, plus Dolby-E compatibility and integral signal processing. The control surface offers direct access to essential operating elements and every 16-fader bay offers fully featured metering on high resolution TFT, while rarely used functions are handled by a touch-screen interface.



www.lawo.de

The V-Mixer M400 from **RSS** won several awards last year, and packs in features such as Cat5e distribution, digital snakes with remote control preamps, touch-sensitive faders, TFT LCD, and onboard DSP. Its 48-channels and 16 busses have full DSP processing, and there are four stereo FX processors and four graphic EQs available. Cat5e connectivity allows up to 40 channels of direct digital recording to a PC if the built-in 24-bit recording space is exceeded.



www.rolandsg.co.uk

The Aurus from **Stage Tec** is a fully digital audio mixing-console system consisting of a main console and separate audio processing rack, the Nexus Star. Its low console weight, compact audio processor, low power consumption, and low heat dissipation gear its application towards live use and OB vans. The console features space saving dual encoders facilitating direct access to many parameters.



www.stagetecc.com

With six sizes to choose from, **Mackie's** VLZ3 series of mixers provide a compact approach to analogue control. They represent an evolution of Mackie's VLZ design, with improved headroom, flexible EQ, and lower noise thanks to the new XDR2 (Extended Dynamic Range) mic preamps. Two mini units offer space-saving efficiency with four or eight line inputs, while the remaining models range from 12 to 16 channels.



www.mackie.com

Samson's 32 channel, 4-bus L3200 mixing console has six flexible aux sends, 24 pre-amped mic/line channels with 4-band EQ, and four stereo channels. The L3200 also provides USB functionality, effectively enhancing the console with an independent stereo mix for applications such as playing a pre-recorded track directly from the computer. It also features large, 12-segment LED meters for the main mix, and backlit mute buttons for operation in dim lighting.



www.samsontech.com

The Vista 5 SR from **Studer** draws upon the technology of the Vista 5, 6, 7, and 8 to create a 'road-ready' console for the sound reinforcement market. The Vistronics screen has a steeper angle to accommodate standing users while integrated console lighting and LED buttons ensure ease of operation in dimly lit environments. The company's new temperature control system protects the console from the wide range of temperatures encountered on tour.



www.studer.ch

Midas' Pro6 live audio system transforms technology from the XL8 into a more compact system featuring up to 80 input channels and 32 mixes, all with EQ and dynamic processing capabilities. It also claims to be only the second live audio console in the world to feature an automatic latency management system, which ensures that, "all audio samples are synchronised before summing, resulting in absolute phase coherency at all outputs."



www.midasconsoles.com

The GB4 console by **Soundcraft** is designed for performance venues or small touring sound systems, and can be used for FOH or monitor duties. Main features include eight aux sends, four paired group sends, four mute groups, a 7+4 output matrix, limiter on record output, new GB30 mic pre-amp, four-band GB30 EQ, and individually switched 48V phantom power on every mono input module.



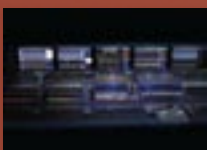
www.soundcraft.com

Yamaha's MC7L medium-sized digital live-sound console builds upon the digital advances of the PM1DV2 and PM5D consoles and employs the company's Centralogic approach, which aims to deliver the same intuitive feel of analogue mixing to a digital console. This feature allows central control of assignable blocks of eight channels. Also vying for attention is its baby brother, the LS 9, which comes in two compact models, a 32-mic/line, and 16-mic/line option.



www.yamahacommercialaudio.com

Midas' XL8 console is designed to encourage an individual approach to mixing. Rather than adhering to hardware dictated numbers, pages, and layouts, the engineer can assign channels to user defined colours and groupings. The standard five bay model comprises three input modules, one output module, and one mix module, the former containing 96 full-function input channels each including, amongst many others, Midas-quality EQ and Midas-quality dynamics.



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The Si3 digital live console from **Soundcraft** employs the Vistronics control surface developed by fellow company Harman Pro, and the outboard DSP engine that Studer and Soundcraft share for the Vi6. It has 64 physical mic/line inputs, eight matrix outputs, and 24 busses, with each bus output harbouring a dedicated physical connection and metering for assignment of groups or auxes. It is designed as a plug and play replacement for a conventional mid-format analogue console.



www.soundcraft.com

The PM5D live digital mixer from **Yamaha** offers 48 mono and four stereo inputs, 24 mix busses, two stereo outputs, and eight matrix outputs. Should greater I/O capacity be required, the PM5D can be supplemented by a DSP5D Digital Mixing System, which endows the user with twice the I/O and processing capacity of a single PM5D console managed from a single control surface.



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Specially designed for the stage, the D 40 dynamic cardioid gracefully delivers the sound of most live instruments and can take a beating (and KARL BADER will prove it).



THE REVIEWER

KARL BADER is a Lead Audio Engineer for Entertainment Sound Production, and can be reached at karlbader@espsound.com.

The AKG D 40 is a unidirectional dynamic cardioid microphone designed for drums, guitars, and wind instruments. The mic element, which utilises the patented AKG Varimotion Laminate Diaphragm technology as used on the D5 Vocal Mic, is protected by a shock mount and steel mesh grille to prevent damage to the element itself.

According to AKG, it has a relatively flat frequency response down to 125Hz, where it drops off with a high pass filter. It also has a boost of approximately 6dB in the 3-4kHz range. Similar in size and shape to the Shure Beta 56, the D 40 comes with an H 440 drum rim clamp and a zippered nylon pouch.

guitar cabinet. The first microphone was a Sennheiser 421 (Series One) microphone. The engineer on the show said the D 40 was 'the perfect complement' – he ended up using both microphones, adding a high pass on the D 40 channel and a low pass on the 421 channel to create a 'bi-miked' situation that he was very happy with. The engineer said that the D 40 had properties that made it great for the guitar, particularly in the high mids, which accentuated the instrument and naturally brought it out in the mix.

The next application for the D 40 was as a tom mic. This gig had three toms: the D 40 was used on the first and floor toms, while the second tom was miked using a Sennheiser e604 cardioid drum microphone. I liked the

AKG D40

Instrument Microphone

A Clamp On The Bullet

Upon opening the D 40 package, the mic impressed me with its 'bulletproof' look. I first thought it might have a weak point at the two screws that hold it onto its mount (and, admittedly, I am a bit wary of the rim clamp concept). I was concerned about whether it would be able to hold the substantial weight of the mic, which is heavy for its size. I did, however, notice a cool feature about the D 40 stand mount; AKG integrated both thread sizes, so there is no need to find an adapter in order to screw the mic onto a rim clamp.

Testing Times

I used the D 40 in a large array of applications. On its first show, it was used as a second mic on a lead electric

"... I did what any live sound guy with too much curiosity would do: I smacked it with a hammer in a few different ways to simulate just a bit of typical road abuse. In doing so, there were two things I found out: one, that the mic still works like it did out of the box..."

sound of the D 40 on the first tom; it had a nice frequency response with the drum, and its high-mid boost accentuated the character of the tonal qualities of the drum. In comparison, the e604 offered more low end, a flatter overall response, and sounded slightly smoother throughout the spectrum. On the floor tom I was neither happy nor unhappy with the sound of the D 40. On one hand, I was pleased with the sound; the mid-high boost accentuated the sound of the stick, rim, and head, but I wish it picked up the sub-low qualities that the drum's tuning offered. On that note, the D 40 would definitely work well for drum kits where you don't want a lot of low end from the toms. With this in mind, I wish I had tried the D 40 on snare, as I have a feeling this would have been the perfect place for it.

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My final test with the D 40 was on saxophone and trumpet via a band with a small horn section. I double-miked the sax for an accurate A-B test; the other mic was a Sennheiser 421. In this instance, I much preferred the Sennheiser to the D 40; in comparison, the 421 had nicer lows and a smoother, much clearer quality to it. The D 40 didn't sound as 'full bodied' as the 421. For the trumpet, I double-miked using the D 40 and a Shure SM57. Here, the D 40 won hands down; its high mid boost and natural roll-off simply made the trumpet sound better. With the D 40, the trumpet cut through the mix without much labour.

You Broke My Drumstick!

After field-testing was complete, I felt that it was time to settle my doubts about the durability of the microphone's mount. The mount looked suspiciously like the D 40's Achilles Heel; the rim clamp looked even weaker. So I did what any live sound guy with too much curiosity would do: I smacked it with a hammer in a few different ways to simulate just a bit of typical road abuse. In doing so, there were two things I found out: one, that the mic still works like it did out of the box, and two, the mic stayed attached to its plastic mount and rim clamp. I then clipped the rim clamp to the rim of an old beat up snare drum. I took a drumstick and smacked the mic several different ways, managing to break a stick over it, yet the D 40 held on while working like a charm. Note that the rim clamp is very low profile, and keeps the mic close to the drum, forcing it to be at a set angle to the head.

Road Worthy Durability

The AKG D 40 proved to be a great utility microphone for many uses. Its high-mid boost and low cut off make it a good choice for drums, horns, and lead guitars – places where you want that 'cut through the mix' sound. Finally, the D 40's test-proven durability makes it ideal for a truly road worthy microphone collection. **AM**



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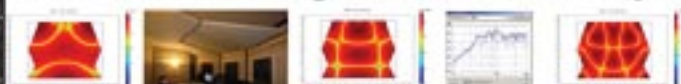
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